

# Congruence properties of the partition function

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ADF040c 1.11

Talks for LSBU Mathematics Study Group, 24 Sep, 8 Oct & 19 Nov 2008

## The functions $p_k(n)$

For any  $k$ , define  $p_k(n)$  by

$$\sum_{n=-\infty}^{\infty} p_k(n)x^n = \prod_{n=1}^{\infty} (1-x^n)^k, \quad |x| < 1,$$

so that  $p_k(n) = 0$  for negative  $n$ . The partition function  $p(n)$  is  $p_{-1}(n)$ . We will be interested in three congruence properties stated and proved by Ramanujan:

$$p(5k+4) \equiv 0 \pmod{5}, \quad p(7k+5) \equiv 0 \pmod{7}, \quad p(11k+6) \equiv 0 \pmod{11}.$$

$n$	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p(n)$	1	1	2	3	5	7	11	15	22	30	42	56	77	101	135	176	231	297	385	490	627

$n$	21	22	23	24	25	26	27	28	29	30	31	32	33
$p(n)$	792	1002	1255	1575	1958	2436	3010	3718	4565	5604	6842	8349	10143

Ramanujan's tau function  $\tau(n)$  is  $p_{24}(n-1)$ .

$n$	1	2	3	4	5	6	7	8	9	10
$\tau(n)$	1	-24	252	-1472	4830	-6048	-16744	84480	-113643	-115920

Apart from the silly case,  $p_0(n) = 0^{|n|}$ , there are only two values of  $k$  for which  $p_k(n)$  has a simple expression,  $k = 1, 3$ . For  $k = 1$  we have

$$p_1(n) = (-1)^r \quad \text{if } n = \frac{3r^2 \pm r}{2}, \quad p_1(n) = 0 \quad \text{otherwise.} \quad (1)$$

This is Euler's pentagonal number theorem. The  $\frac{3r^2 - r}{2}$  are the pentagonal numbers. Equality (1) can be used to compute values of  $p(n)$  thus:

$$(p_1 * p)(n) = \sum_{i=0}^n p_1(i)p(n-i) = p_0(n) = 0^{|n|};$$

$$p(n) = p(n-1) + p(n-2) - p(n-5) - p(n-7) + p(n-12) + p(n-15) - p(n-22) - p(n-26) + \dots$$

The other case is

$$p_3(n) = (-1)^r(2r+1) \quad \text{if } n = \frac{r^2 + r}{2}, \quad p_3(n) = 0 \quad \text{otherwise.} \quad (2)$$

The  $\frac{r^2 + r}{2}$  are the triangular numbers. Useful property of  $p_3(n)$ :

$$p_3(n) \neq 0 \Rightarrow p_3(n)^2 = 8n + 1.$$

$n$	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
$p_1(n)$	1	-1	-1	0	0	1	0	1	0	0	0	0	-1	0	0	-1	0	0	0	0	0	0
$p_2(n)$	1	-2	-1	2	1	2	-2	0	-2	-2	1	0	0	2	3	-2	2	0	0	-2	-2	0
$p_3(n)$	1	-3	0	5	0	0	-7	0	0	0	9	0	0	0	0	-11	0	0	0	0	0	13

Identities (1) and (2) are corollaries of Jacobi's triple product identity.

**Theorem 1** For  $|x| < 1$ ,

$$\prod_{n=1}^{\infty} (1 - x^{2n}) (1 + zx^{2n-1}) \left(1 + \frac{x^{2n-1}}{z}\right) = \sum_{n=-\infty}^{\infty} x^{n^2} z^n. \quad (3)$$

**Proof** See Apostol's book [5] (or *M500 212*).

For the  $p_1(n)$  identity, (1), replace  $x$  by  $x^{3/2}$ ,  $z$  by  $-x^{1/2}$ . Then

$$\prod_{n=1}^{\infty} (1 - x^{3n}) (1 - x^{3n-1}) (1 - x^{3n-2}) = \sum_{n=-\infty}^{\infty} (-1)^n x^{3n^2/2+n/2},$$

and (1) follows.

For the other one, replace  $x$  by  $x^{1/2}$  and  $z$  by  $wx^{1/2}$ . Then (3) becomes

$$\prod_{n=1}^{\infty} (1 - x^n) (1 + wx^n) \left(1 + \frac{x^{n-1}}{w}\right) = \sum_{n=-\infty}^{\infty} w^n x^{(n^2+n)/2},$$

or

$$\prod_{n=1}^{\infty} (1 - x^n) (1 + wx^n) (1 + w^{-1}x^n) = \frac{1}{1 + w^{-1}} \sum_{n=-\infty}^{\infty} w^n x^{(n^2+n)/2}.$$

The right-hand side can be rearranged thus

$$\sum_{n=0}^{\infty} \frac{w^n + w^{-n-1}}{1 + w^{-1}} x^{(n^2+n)/2} = \sum_{n=0}^{\infty} w^{-n} \frac{w^{2n+1} + 1}{w + 1} x^{(n^2+n)/2}.$$

Let  $w \rightarrow -1$  and use l'Hôpital's rule to get (2).

More corollaries of Jacobi's identity. Replace  $x$  and  $z$  by  $x^{1/2}$ :

$$\prod_{n=1}^{\infty} (1 - x^{2n}) (1 + x^n) = \frac{1}{2} \sum_{n=-\infty}^{\infty} x^{n(n+1)/2},$$

and

$$\prod_{n=1}^{\infty} \frac{1 - x^{2n}}{1 - x^{2n-1}} = \frac{1}{2} \sum_{n=-\infty}^{\infty} x^{n(n+1)/2}.$$

Replace  $x$  by  $x^{5/2}$ ,  $z$  by  $x^{3/2}$ :

$$\prod_{n=1}^{\infty} (1 - x^{5n-1}) (1 - x^{5n-4}) (1 - x^{5n}) = \sum_{n=-\infty}^{\infty} (-1)^n x^{(5n+3)n/2}.$$

Replace  $x$  by  $x^{5/2}$ ,  $z$  by  $x^{1/2}$ :

$$\prod_{n=1}^{\infty} (1 - x^{5n-2}) (1 - x^{5n-3}) (1 - x^{5n}) = \sum_{n=-\infty}^{\infty} (-1)^n x^{(5n+1)n/2}.$$

## Congruence properties of $p_k(n)$

**Lemma 1** *Suppose for some  $k$ ,  $b$  and prime  $h$ ,  $p_k(th + b) \equiv 0 \pmod{h}$  for all  $t \geq 0$ . Then  $p_{k \pm h}(th + b) \equiv 0 \pmod{h}$  for all  $t \geq 0$ .*

**Proof** We have

$$\begin{aligned} \sum_{n=0}^{\infty} p_{k+h}(n)x^n &= \prod_{n=1}^{\infty} (1 - x^n)^{k+h} = \prod_{n=1}^{\infty} (1 - x^n)^k (1 - x^n)^h \\ &\equiv \prod_{n=1}^{\infty} (1 - x^n)^k (1 \pm x^{nh}) \equiv \sum_{n=0}^{\infty} p_k(n)x^n \prod_{n=1}^{\infty} (1 \pm x^{nh}) \pmod{h}. \end{aligned}$$

When  $n = th + b$ ,  $p_k(n) \equiv 0 \pmod{h}$ . Moreover, only powers of  $x^h$  appear when the product on the right is expanded. Therefore the coefficient of  $x^{th+b}$  will be a sum of terms of the form  $c_j p_k(jh + b)$  with integer coefficients  $c_j$  for various integer values of  $j$ . Hence the coefficient of  $x^n$  on the right is going to be zero modulo  $h$ . The case  $p_{k-h}(th + b)$  is treated in a similar manner.  $\square$

**Theorem 2**  $p(5t + 4) \equiv 0 \pmod{5}$  for all  $t \geq 0$ .

**Proof** Consider  $p_9(n)$ . We have

$$\sum_{n=0}^{\infty} p_9(n)x^n = \prod_{n=1}^{\infty} (1 - x^n)^9 = \left( \sum_{n=0}^{\infty} p_3(n)x^n \right)^3.$$

So

$$p_9(n) = (p_3 * p_3 * p_3)(n) = \sum_{r=0}^n \sum_{s=0}^{n-r} p_3(r)p_3(s)p_3(n - r - s).$$

Only terms on the right where all three factors are non-zero contribute to  $p_9(n)$ . Recalling that  $p_3(n)^2 = 8n + 1$  for non-zero  $p_3(n)$ , we have

$$p_3(r)^2 + p_3(s)^2 + p_3(n - r - s)^2 = 8r + 1 + 8s + 1 + 8(n - r - s) + 1 = 8n + 3.$$

Now suppose  $n = 5t + 4$ . Then  $8n + 3 \equiv 0 \pmod{5}$ . Moreover, you cannot have three squares summing to zero modulo 5 unless one of the squares is zero modulo 5. Hence  $p_9(5t + 4) \equiv 0 \pmod{5}$ . Recall that  $p(n) = p_{-1}(n)$  and use Lemma 1 twice.  $\square$

Ramanujan has a similarly elementary proof but involving  $p_4(n)$ .

**Ramanujan's proof** Write (1) and (2) thus

$$(1 - x)(1 - x^2) \dots = 1 - x - x^2 + x^5 + x^7 - x^{12} - x^{15} + \dots = \sum_{n=-\infty}^{\infty} (-1)^n x^{(3n+1)n/2},$$

$$(1 - x)^3(1 - x^2)^3 \dots = 1 - 3x + 5x^3 - 7x^6 + 9x^{10} - \dots = \frac{1}{2} \sum_{n=-\infty}^{\infty} (-1)^n (2n + 1) x^{(n+1)n/2}.$$

Then

$$x(1-x)^4(1-x^2)^4 \dots = \frac{1}{2} \sum_{m=-\infty}^{\infty} \sum_{n=-\infty}^{\infty} (-1)^{m+n} (2n+1) x^{1+(3m+1)m/2+(n+1)n/2}.$$

The coefficient of  $x^{5t}$  on the left is  $p_4(5t-1)$ . Now look at the exponent of  $x$  on the right. If this is a multiple of 5 then

$$8 \left( 1 + \frac{(3m+1)m}{2} + \frac{(n+1)n}{2} \right) = 8 + 4(3m+1)m + 4(n+1)n \equiv 0 \pmod{5}.$$

Hence

$$8 + 4(3m+1)m + 4(n+1)n - 10m^2 - 5 = 2(m+1)^2 + (2n+1)^2 \equiv 0 \pmod{5}.$$

But this is impossible unless  $m+1$  and  $2n+1$  are both zero. Hence the coefficient of  $x^{5t}$  on the right is zero modulo 5, and hence also on the left.  $\square$

**Theorem 3**  $p(7t+5) \equiv 0 \pmod{7}$  for all  $t \geq 0$ .

**Proof** Consider  $p_6(n)$ . Similarly to before, we have

$$p_6(n) = (p_3 * p_3)(n) = \sum_{r=0}^n p_3(r)p_3(n-r).$$

Only terms on the right where the two factors are non-zero contribute to  $p_6(n)$ . Recalling that  $p_3(n)^2 = 8n+1$  for non-zero  $p_3(n)$ , we have

$$p_3(r)^2 + p_3(n-r)^2 = 8r+1 + 8(n-r)+1 = 8n+2.$$

But if  $n = 7t+5$ , then  $8n+2 \equiv 0 \pmod{7}$ . Moreover, two non-zero squares modulo 7 cannot sum to zero modulo 7. Hence  $p_6(7t+5) \equiv 0 \pmod{7}$ . The result follows using Lemma 1.  $\square$

However there is no simple proof of the third congruence,  $p(11t+6) \equiv 0 \pmod{11}$ .

Ramanujan stated without proof two amazing identities:

$$\sum_{t=0}^{\infty} p(5t+4)x^t = 5 \prod_{n=1}^{\infty} \frac{(1-x^{5n})^5}{(1-x^n)^6} \quad (4)$$

and

$$\sum_{t=0}^{\infty} p(7t+5)x^t = 7 \prod_{n=1}^{\infty} \frac{(1-x^{7n})^3}{(1-x^n)^4} + 49x \prod_{n=1}^{\infty} \frac{(1-x^{7n})^7}{(1-x^n)^8}. \quad (5)$$

One can use these to construct simple proofs of

$$p(25t+24) \equiv 0 \pmod{25}, \quad p(49t+47) \equiv 0 \pmod{49}.$$

Take the first one. Rewrite the (4) as

$$\begin{aligned} \frac{p(4)x + p(9)x^2 + \dots}{5((1-x^5)(1-x^{10})(1-x^{15}) \dots)^4} &= \frac{x}{(1-x)(1-x^2)(1-x^3) \dots} \frac{(1-x^5)(1-x^{10})(1-x^{15}) \dots}{((1-x)(1-x^2)(1-x^3) \dots)^5} \\ &\equiv \frac{x}{(1-x)(1-x^2)(1-x^3) \dots} \pmod{5}. \end{aligned}$$

For each non-negative integer  $m$ , the coefficient of  $x^{5m+5}$  on the right is  $p(5m+4)$ , and this is congruent to 0 modulo 5; hence the coefficient of  $x^{5m+5}$  on the left is also congruent to 0 modulo 5. Since the coefficient of  $x^{5m+5}$  in the numerator of the left-hand side is  $p(25m+24)$  and  $((1-x^5)(1-x^{10})(1-x^{15}) \dots)^{-4}$  is a power series in  $x^5$ , it then follows that  $p(25t+24)/5 \equiv 0 \pmod{5}$  for all  $t \geq 0$ .

The other congruence can be proved similarly using (5).

# Dyson's rank and crank

In 1919, Ramanujan gave elementary proofs of the two congruences  $p(5t + 4) \equiv 0 \pmod{5}$  and  $p(7t + 5) \equiv 0 \pmod{7}$ . But what was lacking from his proofs (and ours) was a simple property of the partitions of  $5t + 4$  and  $7t + 5$  that distributes them equitably over the residue classes modulo 5 and 7, respectively.

Writing in the 1944 edition of *Eureka*, Freeman Dyson defined the *rank* of a partition, largest part minus number of parts, and conjectured that it does just that. For  $x = 0, 1, 2, 3, 4$ , exactly  $p(5k + 4)/5$  partitions of  $5t + 4$  have rank  $\equiv x \pmod{5}$ , and for  $x = 0, 1, \dots, 6$ , exactly  $p(7k + 5)/7$  partitions of  $7t + 5$  have rank  $\equiv x \pmod{7}$ .

Oliver Atkin and Peter Swinnerton-Dyer proved Dyson's conjecture in 1953.

However the rank function fails to work for Ramanujan's third congruence,  $p(11t + 6) \equiv 0 \pmod{11}$ . In the same *Eureka* article, Dyson predicted the existence of another function  $c(P)$  such that the  $c(P)$  of the partitions  $P$  of  $11t + 6$  are distributed uniformly over the residue classes modulo 11. Dyson named this property the *crank* of a partition but at the time he was unable to define it. He expressed the hope that the crank would not have to suffer the same fate as the planet Vulcan and that one day somebody would discover the correct definition and thereby prove it does exist.

That had to wait until 1987, when George Andrews and Frank Garvan discovered the true definition of the crank—on the last day of the Ramanujan Centenary Conference at the University of Illinois.

$n$	$m$	partition $P$	rank $r(P)$	rank mod $m$	largest part $L(P)$	number of 1s $M(P)$	# parts $> M(P)$ $N(P)$	crank $c(P)$	crank mod $m$
4	5	1 1 1 1	-3	2	1	4	0	-4	1
		1 1 2	-1	4	2	2	0	-2	3
		1 3	1	1	3	1	1	0	0
		2 2	0	0	2	0	2	2	2
		4	3	3	4	0	1	4	4
5	7	1 1 1 1 1	-4	3	1	5	0	-5	2
		1 1 1 2	-2	5	2	3	0	-3	4
		1 1 3	0	0	3	2	1	-1	6
		1 2 2	-1	6	2	1	2	1	1
		1 4	2	2	4	1	1	0	0
		2 3	1	1	3	0	2	3	3
		5	4	4	5	0	1	5	5
6	11	1 1 1 1 1 1	-5	6	1	6	0	-6	5
		1 1 1 1 2	-3	8	2	4	0	-4	7
		1 1 1 3	-1	10	3	3	0	-3	8
		1 1 2 2	-2	9	2	2	0	-2	9
		1 1 4	1	1	4	2	1	-1	10
		1 2 3	0	0	3	1	2	1	1
		1 5	3	3	5	1	1	0	0
		2 2 2	-1	10	2	0	3	2	2
		2 4	2	2	4	0	2	4	4
		3 3	1	1	3	0	2	3	3
		6	5	5	6	0	1	6	6

Given a partition  $P$ , let  $L(P)$  denote the largest part of  $P$ , let  $M(P)$  denote the number of ones in  $P$  and let  $N(P)$  denote the number of parts of  $P$  larger than  $M(P)$ . The crank,  $c(P)$ , is defined as follows: if  $M(P) = 0$ , then  $c(P) = L(P)$ , otherwise  $c(P) = N(P) - M(P)$ .

It is easy to see that the ranks of a partition sum to zero. Is the same true for the cranks?

(No, it's not the home of *Star Trek's* Mr Spock. Vulcan was a hypothetical member of the solar system invented by 19th century astronomers to account for deviations from the theoretical orbit of Mercury that could not be explained by gravitational effects of the other known planets. However, Vulcan became unnecessary when a young employee of the Swiss Patent Office developed a new theory of gravitation which correctly predicted Mercury's erratic behaviour.)

## Congruence $p(11t + 6) \equiv 0 \pmod{11}$ : Ramanujan's method

The third partition congruence appears to be in a different league from the other two.

Ramanujan [1,3] defines the following functions, which are fundamental to a lot of his work.

$$S_r = \frac{1}{2}\zeta(-r) + \sum_{n=1}^{\infty} \frac{n^r x^n}{1-x^n}, \quad (6)$$

$$\Phi_{r,s} = \sum_{m=1}^{\infty} \sum_{n=1}^{\infty} m^r n^s x^{mn}, \quad (7)$$

$$P = 1 - 24\Phi_{0,1} = 1 - 24 \sum_{n=1}^{\infty} \frac{nx^n}{1-x^n} = 1 - 24 \sum_{n=1}^{\infty} \sigma(n)x^n, \quad (8)$$

$$Q = 1 + 240\Phi_{0,3} = 1 + 240 \sum_{n=1}^{\infty} \frac{n^3 x^n}{1-x^n} = 1 + 240 \sum_{n=1}^{\infty} \sigma_3(n)x^n, \quad (9)$$

$$R = 1 - 504\Phi_{0,5} = 1 - 504 \sum_{n=1}^{\infty} \frac{n^5 x^n}{1-x^n} = 1 - 504 \sum_{n=1}^{\infty} \sigma_5(n)x^n. \quad (10)$$

The  $P$ ,  $Q$  and  $R$  are related to the Eisenstein series

$$G_s(\tau) = \sum_{(m,n) \neq (0,0)} \frac{1}{(m+n\tau)^s} = 2\zeta(s) + \frac{2(2\pi i)^s}{(s-1)!} \sum_{n=1}^{\infty} \sigma_{s-1}(n) e^{2\pi i n \tau}.$$

$n$	0	-1	-3	-5	-7	-9	-11	-13	-15	-17	-19
$\zeta(n)$	$-\frac{1}{2}$	$-\frac{1}{12}$	$\frac{1}{120}$	$-\frac{1}{252}$	$\frac{1}{240}$	$-\frac{1}{132}$	$\frac{691}{32760}$	$-\frac{1}{12}$	$\frac{3617}{8160}$	$-\frac{43867}{14364}$	$\frac{174611}{6600}$

Ramanujan begins by proving two interesting identities involving elementary trigonometry,

$$\left( \frac{\cot \frac{\theta}{2}}{4} + \sum_{n=1}^{\infty} \frac{x^n \sin n\theta}{1-x^n} \right)^2 = \left( \frac{\cot \frac{\theta}{2}}{4} \right)^2 + \sum_{n=1}^{\infty} \frac{x^n \cos n\theta}{(1-x^n)^2} + \sum_{n=1}^{\infty} \frac{nx^n(1-\cos n\theta)}{2(1-x^n)},$$

$$\left( \frac{\cot^2 \frac{\theta}{2}}{8} + \frac{1}{12} + \sum_{n=1}^{\infty} \frac{nx^n(1-\cos n\theta)}{1-x^n} \right)^2 = \left( \frac{\cot^2 \frac{\theta}{2}}{8} + \frac{1}{12} \right)^2 + \sum_{n=1}^{\infty} \frac{n^3 x^n (5 + \cos n\theta)}{12(1-x^n)},$$

and he uses them to derive two formulae involving  $S_r$ ,

$$\frac{(n-2)(n+5)}{12(n+1)(n+2)} S_{n+3} = \sum_{i=1}^{n/2-1} \binom{n}{2i} S_{2i+1} S_{n+1-2i}, \quad n \text{ even}, \quad n > 2, \quad (11)$$

and

$$\frac{(n+3)}{2(n+1)}S_{n+1} = \Phi_{1,n} + \sum_{i=1}^{n/2} \binom{n}{2i-1} S_{2i-1} S_{n+1-2i}, \quad n \text{ even}, n > 0. \quad (12)$$

Then from (11) and (12) he shows that when  $r+s$  is odd and  $r < s$ ,  $\Phi_{r,s}$  is expressible as a polynomial in  $P$ ,  $Q$  and  $R$  of the form  $\Phi_{r,s} = \sum a_{l,m,n} P^l Q^m R^n$ , where  $l-1 \leq \min(r,s)$  and  $2l+4m+6n = r+s+1$ . In particular,

$$Q^2 = 1 + 480\Phi_{0,7}, \quad (13)$$

$$QR = 1 - 264\Phi_{0,9}, \quad (14)$$

$$441Q^3 + 250R^2 = 691 + 65520\Phi_{0,11}. \quad (15)$$

For instance, to get (13), observe that

$$S_r = \Phi_{0,r} + \frac{1}{2}\zeta(-r). \quad (16)$$

Then put  $n=4$  in (11) and use (9) to obtain

$$\frac{1}{20} \left( \Phi_{0,7} - \frac{1}{480} \right) = 6 \left( \Phi_{0,3} + \frac{1}{240} \right)^2 = \frac{6}{240^2} Q^2,$$

which is essentially (13). Similarly, put  $n=6$  and  $n=8$  in (11) to get (14) and (15) respectively. Next, denoting the differential operator  $x d/dx$  by  $\vartheta$ , Ramanujan obtains

$$\begin{aligned} P^2 - Q &= 12\vartheta P, \\ PQ - R &= 3\vartheta Q, \\ PR - Q^2 &= 2\vartheta R, \end{aligned} \quad (17)$$

as well as the important identity

$$Q^3 - R^2 = 12^3 x \prod_{n=1}^{\infty} (1-x^n)^{24}. \quad (18)$$

To prove (18), observe that

$$\vartheta \log(Q^3 - R^2) = P = \vartheta \log \left( x \prod_{n=1}^{\infty} (1-x^n)^{24} \right)$$

and then equate coefficients of  $x$  to get the factor  $12^3$ .

To deal with  $p(11k+6)$ , Ramanujan uses the above identities to derive

$$\begin{aligned} Q(PQ - R) &= \frac{3}{2} \vartheta(Q^2) = 720\Phi_{1,8}, \\ 2PQ^2 - P^2R - QR &= -\frac{24}{7} \vartheta^2(R) = 1728\Phi_{2,7}, \\ P^3Q - 3P^2R + 3PQ^2 - QR &= \frac{72}{5} \vartheta^3(Q) = 3456\Phi_{3,6} \end{aligned}$$

and

$$15PQ^2 - 20P^2R + 10P^3Q - 4QR - P^5 = -864\vartheta^4(P) = 20736\Phi_{4,5}.$$

Then he obtains this formula involving a linear combination of the last four:

$$(Q^3 - R^2)^5 \equiv -5\Phi_{1,8} + 3\Phi_{2,7} + 3\Phi_{3,6} - \Phi_{4,5} \pmod{11}.$$

This is what we want because the coefficient of  $x^{11t}$  in the  $\Phi_{i,j}$ s on the right has to be a multiple of 11 since in each case both subscripts  $i$  and  $j$  are positive. Hence the coefficient of  $x^{11t}$  on the left must also be congruent to 0 modulo 11. By (18), that coefficient is  $12^{15}p_{5,24}(11t-5)$ . So  $p_{120}(11t+6) \equiv 0 \pmod{11}$  and therefore  $p(11t+6) \equiv 0 \pmod{11}$ .  $\square$

## Congruence $p(11t+6) \equiv 0 \pmod{11}$ : another method

There is another way that uses only the identities (17) involving  $\vartheta P$ ,  $\vartheta Q$ ,  $\vartheta R$  and the product expression (18) for  $Q^3 - R^2$  [4].

Let us take a typical simple example. We will prove that

$$p_{10}(19n+17) \equiv 0 \pmod{19}, \quad n \geq 0.$$

By Lemma 1, it suffices to show that the same is true of  $p_{48}(19r-2)$ ,  $r > 0$ . Suppose we find an identity such as

$$(Q^3 - R^2)^2 \equiv 12\vartheta F(x) + 19G(x),$$

where  $F(x)$  and  $G(x)$  are power series in  $x$  with integer coefficients. Then the coefficient of  $x^{19r}$  on the right will be a multiple of 19. So the coefficient of  $x^{19r}$  on the left must also be a multiple of 19. By (18), the coefficient of  $x^{19r}$  on the left is  $12^6 p_{48}(19r-2)$ .

We succeed because of the existence of the equality

$$\begin{aligned} & 12\vartheta(9P^3Q^4 + 16P^3QR^2 + 13P^2Q^3R + 7P^2R^3 + 5PQ^5 + 13PQ^2R^2 + 18Q^4R + 14QR^3) \\ &= (Q^3 - R^2)^2 + 19(9P^4Q^4 + 16P^4QR^2 - 4P^3Q^3R + 4P^3R^3 \\ &\quad - 3P^2Q^2R^2 + 6PQ^4R + 10PQR^3 - 6Q^6 - 29Q^3R^2 - 3R^4). \end{aligned} \tag{19}$$

And we can deal with  $p(11t+6)$  by means of this identity:

$$\begin{aligned} & 12\vartheta(10P^3Q^{13} + P^3Q^{10}R^2 + 7P^3Q^7R^4 + 7P^3Q^4R^6 + 5P^3QR^8 \\ &\quad + 4P^2Q^{12}R + 10P^2Q^9R^3 + 8P^2Q^6R^5 + 9P^2R^9 + 5PQ^{14} \\ &\quad + 6PQ^{11}R^2 + 8PQ^8R^4 + 2PQ^5R^6 + 3PQ^2R^8 \\ &\quad + 10Q^{13}R + Q^{10}R^3 + Q^7R^5 + 10Q^4R^7 + 3QR^9) \\ &= (Q^3 - R^2)^5 \\ &\quad + 11(50P^4Q^{13} + 5P^4Q^{10}R^2 + 35P^4Q^7R^4 + 35P^4Q^4R^6 + 25P^4QR^8 \\ &\quad - 28P^3Q^{12}R + 32P^3Q^9R^3 - 32P^3Q^3R^7 + 44P^3R^9 + 21P^2Q^{14} \\ &\quad - 3P^2Q^{11}R^2 - 15P^2Q^8R^4 - 9P^2Q^5R^6 - 30P^2Q^2R^8 + 20PQ^{13}R \\ &\quad - 38PQ^{10}R^3 - 26PQ^7R^5 + 36PQ^4R^7 + 12PQR^9 - 6Q^{15} \\ &\quad - 49Q^{12}R^2 - 8Q^9R^4 - 40Q^6R^6 - 30Q^3R^8 - R^{10}). \end{aligned} \tag{20}$$

Thus  $p_{120}(11t-5) \equiv 0 \pmod{11}$  and hence  $p(11t+6) \equiv 0 \pmod{11}$ .  $\square$

Identity (20) looks rather complicated, but with a bit more work we can replace it with an expression where the left-hand side takes a simpler form:

$$\vartheta^4(2Q^{13} + 9R^2Q^{10} + 8R^4Q^7 + 8R^6Q^4 + R^8Q) \equiv (Q^3 - R^2)^5 \pmod{11}.$$

Moreover, we can treat the other two congruences in the same way. For  $p(5t+4) \equiv 0 \pmod{5}$ , we use the identity

$$12\vartheta(4QR) = Q^3 - R^2 - 5(5Q^3 - 8PRQ + 3R^2)$$

and for  $p(7t+5) \equiv 0 \pmod{7}$ , we have

$$12\vartheta(5PQ^5 + 6RQ^4 + 5PR^2Q^2 + 5R^3Q) \equiv (Q^3 - R^2)^2 \pmod{7},$$



or the simpler formula,

$$12^2 \vartheta^2 (2Q^5 + 2R^2Q^2) \equiv (Q^3 - R^2)^2 \pmod{7}.$$

But how do we find identities like (19) and (20)?

Let  $h$  be a prime greater than 3 and let  $s$  be a positive integer. Let  $A_{\lambda,\mu,\nu}^{\alpha,\beta,\gamma}$  denote the matrix defined by equating coefficients in expressions of the form  $P^\alpha Q^\beta R^\gamma$  in

$$\sum_{\substack{\lambda, \mu, \nu \geq 0 \\ \lambda + 2\mu + 3\nu = 6s}} A_{\lambda,\mu,\nu}^{\alpha,\beta,\gamma} P^\lambda Q^\mu R^\nu = 12\vartheta P^\alpha Q^\beta R^\gamma$$

as  $\alpha, \beta$  and  $\gamma$  run through the non-negative integers satisfying  $\alpha + 2\beta + 3\gamma = 6s - 1$ . Then we solve the system of linear congruences

$$\sum_{\substack{\alpha, \beta, \gamma \geq 0 \\ \alpha + 2\beta + 3\gamma = 6s - 1}} A_{\lambda,\mu,\nu}^{\alpha,\beta,\gamma} a_{\alpha,\beta,\gamma} \equiv t_{\lambda,\mu,\nu} \pmod{h}$$

for  $a_{\alpha,\beta,\gamma}$ , where

$$t_{0,\mu,\nu} = (-1)^{\nu/2} \binom{s}{\nu/2}, \quad t_{\lambda,\mu,\nu} = 0 \quad \text{for } \lambda > 1$$

and, as before,  $\lambda + 2\mu + 3\nu = 6s$ . The  $t_{0,\mu,\nu}$  are merely the binomial coefficients of  $Q^\mu R^\nu$  in the expansion of  $(Q^3 - R^2)^s$ .

One can now see that  $a_{\alpha,\beta,\gamma}$  are the required coefficients; for

$$\begin{aligned} 12\vartheta \sum_{\substack{\alpha, \beta, \gamma \geq 0 \\ \alpha + 2\beta + 3\gamma = 6s - 1}} a_{\alpha,\beta,\gamma} P^\alpha Q^\beta R^\gamma & \\ & \equiv \sum_{\substack{\alpha, \beta, \gamma \geq 0 \\ \alpha + 2\beta + 3\gamma = 6s - 1}} \sum_{\substack{\lambda, \mu, \nu \geq 0 \\ \lambda + 2\mu + 3\nu = 6s}} P^\lambda Q^\mu R^\nu A_{\lambda,\mu,\nu}^{\alpha,\beta,\gamma} a_{\alpha,\beta,\gamma} \\ & \equiv \sum_{\substack{\lambda, \mu, \nu \geq 0 \\ \lambda + 2\mu + 3\nu = 6s}} P^\lambda Q^\mu R^\nu \sum_{\substack{\alpha, \beta, \gamma \geq 0 \\ \alpha + 2\beta + 3\gamma = 6s - 1}} A_{\lambda,\mu,\nu}^{\alpha,\beta,\gamma} a_{\alpha,\beta,\gamma} \\ & \equiv \sum_{\substack{\lambda, \mu, \nu \geq 0 \\ \lambda + 2\mu + 3\nu = 6s}} P^\lambda Q^\mu R^\nu t_{\lambda,\mu,\nu} \\ & \equiv \sum_{\substack{\mu, \nu \geq 0 \\ 2\mu + 3\nu = 6s}} Q^\mu R^\nu t_{0,\mu,\nu} \\ & \equiv (Q^3 - R^2)^s \pmod{h}. \end{aligned}$$



# Identities for proving congruence properties

This is a collection of identities of the form

$$12^e \vartheta^e \mathcal{F} = (Q^3 - R^2)^s - h\mathcal{G}, \quad (*)$$

where  $h$  is a prime greater than 3,  $e$  and  $s$  are positive integers,  $\mathcal{F}$  is a linear combination of terms  $P^\alpha Q^\beta R^\gamma$ ,  $\alpha + 2\beta + 3\gamma = 6s - e$ , and  $\mathcal{G}$  is a linear combination of terms  $P^\lambda Q^\mu R^\nu$ ,  $\lambda + 2\mu + 3\nu = 6s$ . When  $e = 1$  the identity is given in full; otherwise the identity is replaced by a congruence modulo  $h$ .

There are a some occasions where there is no identity of the form  $(*)$  with  $s < h$ . However, in these cases we can achieve a proof of the relevant congruence property with a more general expression:

$$12^e \vartheta^e \mathcal{F} = P^{ah} Q^{bh} R^{ch} (Q^3 - R^2)^s - h\mathcal{G},$$

which reduces to  $(*)$  when  $a = b = c = 0$ .

$$p_4(5t + 4) \equiv 0 \pmod{5}$$

$$12\vartheta(4QR) = Q^3 - R^2 - 5(5Q^3 - 8PRQ + 3R^2)$$

$$12^4 \vartheta^4(4P^2) \equiv Q^3 - R^2 \pmod{5}$$

$$12^5 \vartheta^5(4P) \equiv Q^3 - R^2 \pmod{5}$$

$$p_3(5t + 3) \equiv 0 \pmod{5}$$

$$\begin{aligned} &12\vartheta(3PQ^5 + RQ^4 + 3P^2RQ^3 + 3PR^2Q^2 + R^3Q + 4P^2R^3) \\ &= (Q^3 - R^2)^2 - 5(2Q^6 - 9P^2Q^5 + 16PRQ^4 + 7R^2Q^3 - 12P^3RQ^3 + 9P^2R^2Q^2 + 2PR^3Q + R^4 - 16P^3R^3) \end{aligned}$$

$$12^3 \vartheta^3(4RQ^3 + 2R^3) \equiv (Q^3 - R^2)^2 \pmod{5}$$


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$$p_3(7t + 6) \equiv 0 \pmod{7}$$

$$12\vartheta(5QP^3 + 6RP^2 + Q^2P + 2QR) = Q^3 - R^2 - 7(-5QP^4 - 4RP^3 + 6Q^2P^2 + 2Q^3 + R^2)$$

$$12^4 \vartheta^4(5Q) \equiv Q^3 - R^2 \pmod{7}$$

$$p_6(7t + 5) \equiv 0 \pmod{7}$$

$$\begin{aligned} &12\vartheta(5PQ^5 + 6RQ^4 + 5PR^2Q^2 + 5R^3Q) \\ &= (Q^3 - R^2)^2 - 7(6Q^6 - 15P^2Q^5 + 4PRQ^4 + 27R^2Q^3 - 15P^2R^2Q^2 - 10PR^3Q + 3R^4) \end{aligned}$$

$$12^2 \vartheta^2(2Q^5 + 2R^2Q^2) \equiv (Q^3 - R^2)^2 \pmod{7}$$


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$$p_4(11t + 9) \equiv 0 \pmod{11}$$

$$\begin{aligned} &12\vartheta(9RQ^4 + 8R^3Q) \\ &= (Q^3 - R^2)^2 - 11(5Q^6 - 18PRQ^4 + 26R^2Q^3 - 16PR^3Q + 3R^4) \end{aligned}$$

$$p_6(11t + 8) \equiv 0 \pmod{11}$$

$$\begin{aligned} & 12\vartheta(3PQ^8 + 3RQ^7 + 6PR^2Q^5 + 8R^3Q^4 + 10PR^4Q^2 + 3R^5Q) \\ &= (Q^3 - R^2)^3 - 11(2Q^9 - 9P^2Q^8 + 6PRQ^7 + 21R^2Q^6 - 18P^2R^2Q^5 + 8PR^3Q^4 + 21R^4Q^3 - \\ & 30P^2R^4Q^2 - 2PR^5Q + R^6) \end{aligned}$$

$$12^2\vartheta^2(8Q^8 + 5R^2Q^5 + R^4Q^2) \equiv (Q^3 - R^2)^3 \pmod{11}$$

$$p_8(11t + 7) \equiv 0 \pmod{11}$$

$$\begin{aligned} & 12\vartheta(7PQ^{11} + 3P^2Q^9R + 6Q^{10}R + 6PQ^8R^2 + 9P^2Q^6R^3 + 5PQ^5R^4 + 8P^2Q^3R^5 + 9PQ^2R^6 + \\ & 5P^2R^7 + 8QR^7) \\ &= (Q^3 - R^2)^4 - 11(-27P^2Q^{11} + 4Q^{12} - 12P^3Q^9R + 10PQ^{10}R + 22Q^9R^2 - 36P^3Q^6R^3 + \\ & 30PQ^7R^3 + 21P^2Q^5R^4 + Q^6R^4 - 32P^3Q^3R^5 + 40PQ^4R^5 - 9P^2Q^2R^6 + 31Q^3R^6 - 20P^3R^7 - \\ & 26PQR^7 + 3R^8) \end{aligned}$$

$$12^3\vartheta^3(7RQ^9 + 10R^3Q^6 + 4R^5Q^3 + 8R^7) \equiv (Q^3 - R^2)^4 \pmod{11}$$

$$p_{10}(11t + 6) \equiv 0 \pmod{11}$$

$$\begin{aligned} & 12\vartheta(10P^3Q^{13} + 5PQ^{14} + 4P^2Q^{12}R + 10Q^{13}R + P^3Q^{10}R^2 + 6PQ^{11}R^2 + 10P^2Q^9R^3 + Q^{10}R^3 + \\ & 7P^3Q^7R^4 + 8PQ^8R^4 + 8P^2Q^6R^5 + Q^7R^5 + 7P^3Q^4R^6 + 2PQ^5R^6 + 10Q^4R^7 + 5P^3QR^8 + \\ & 3PQ^2R^8 + 9P^2R^9 + 3QR^9) \\ &= (Q^3 - R^2)^5 - 11(-50P^4Q^{13} - 21P^2Q^{14} + 6Q^{15} + 28P^3Q^{12}R - 20PQ^{13}R - 5P^4Q^{10}R^2 + \\ & 3P^2Q^{11}R^2 + 49Q^{12}R^2 - 32P^3Q^9R^3 + 38PQ^{10}R^3 - 35P^4Q^7R^4 + 15P^2Q^8R^4 + 8Q^9R^4 + 26PQ^7R^5 - \\ & 35P^4Q^4R^6 + 9P^2Q^5R^6 + 40Q^6R^6 + 32P^3Q^3R^7 - 36PQ^4R^7 - 25P^4QR^8 + 30P^2Q^2R^8 + 30Q^3R^8 - \\ & 44P^3R^9 - 12PQR^9 + R^{10}) \end{aligned}$$

$$12^4\vartheta^4(2Q^{13} + 9R^2Q^{10} + 8R^4Q^7 + 8R^6Q^4 + R^8Q) \equiv (Q^3 - R^2)^5 \pmod{11}$$

$$p_3(11t + 4) \equiv 0 \pmod{11}$$

$$\begin{aligned} & 12\vartheta(PQ^{20} + 6P^3Q^{19} + 7RQ^{19} + 4P^5Q^{18} + 5P^2RQ^{18} + 6P^4RQ^{17} + 2R^3Q^{16} + 8P^3R^2Q^{16} + \\ & 8P^2R^3Q^{15} + 4P^5R^2Q^{15} + 8PR^4Q^{14} + 4P^4R^3Q^{14} + R^5Q^{13} + P^3R^4Q^{13} + 3P^5R^4Q^{12} + 10PR^6Q^{11} + \\ & 2P^4R^5Q^{11} + 8R^7Q^{10} + 2P^3R^6Q^{10} + 5P^2R^7Q^9 + 4P^5R^6Q^9 + 2PR^8Q^8 + 8P^4R^7Q^8 + 5R^9Q^7 + \\ & 6P^3R^8Q^7 + 3P^2R^9Q^6 + 10P^5R^8Q^6 + 2PR^{10}Q^5 + 8P^4R^9Q^5 + 8R^{11}Q^4 + 8P^3R^{10}Q^4 + 7P^2R^{11}Q^3 + \\ & 2P^5R^{10}Q^3 + 5PR^{12}Q^2 + 10P^4R^{11}Q^2 + 3R^{13}Q + 3P^3R^{12}Q + 4P^2R^{13} + 5P^5R^{12}) \\ &= (Q^3 - R^2)^7 - 11(4Q^{21} - 3P^2Q^{20} - 38P^4Q^{19} - 44PRQ^{19} - 28P^6Q^{18} + 51R^2Q^{18} + 16P^3RQ^{18} + \\ & 48P^2R^2Q^{17} - 12P^5RQ^{17} + 4PR^3Q^{16} - 12P^4R^2Q^{16} + 17R^4Q^{15} - 8P^3R^3Q^{15} - 28P^6R^2Q^{15} - \\ & 15P^2R^4Q^{14} + 66PR^5Q^{13} + 20P^4R^4Q^{13} + 33R^6Q^{12} + 12P^3R^5Q^{12} - 21P^6R^4Q^{12} - 54P^2R^6Q^{11} + \\ & 12P^5R^5Q^{11} - 10PR^7Q^{10} + 26P^4R^6Q^{10} + 57R^8Q^9 - 28P^6R^6Q^9 + 18P^2R^8Q^8 - 20PR^9Q^7 + \\ & 24P^4R^8Q^7 + 59R^{10}Q^6 + 40P^3R^9Q^6 - 70P^6R^8Q^6 + 36P^2R^{10}Q^5 - 24P^5R^9Q^5 - 22PR^{11}Q^4 + \\ & 18P^4R^{10}Q^4 + 34R^{12}Q^3 - 16P^3R^{11}Q^3 - 14P^6R^{10}Q^3 - 36P^5R^{11}Q^2 - 18PR^{13}Q - 12P^4R^{12}Q + \\ & R^{14} - 28P^3R^{13} - 35P^6R^{12}) \end{aligned}$$

$$12^6\vartheta^6(4Q^{18} + 4R^2Q^{15} + 3R^4Q^{12} + 4R^6Q^9 + 10R^8Q^6 + 2R^{10}Q^3 + 5R^{12}) \equiv (Q^3 - R^2)^7 \pmod{11}$$

$$p_3(13t + 8) \equiv 0 \pmod{13}$$

$$12\vartheta(9PQ^{14} + 9P^3Q^{13} + 7RQ^{13} + 3P^5Q^{12} + 3P^2RQ^{12} + 2P^4RQ^{11} + R^3Q^{10} + 9P^3R^2Q^{10} + \\ 7P^6RQ^{10} + 10P^2R^3Q^9 + 7PR^4Q^8 + 6P^4R^3Q^8 + 2R^5Q^7 + 3P^3R^4Q^7 + 9P^6R^3Q^7 + P^2R^5Q^6 +$$

$$\begin{aligned}
& 8P^5R^4Q^6 + 2PR^6Q^5 + 6P^4R^5Q^5 + 10R^7Q^4 + 4P^6R^5Q^4 + 4P^2R^7Q^3 + 3P^5R^6Q^3 + 10PR^8Q^2 + \\
& 7P^4R^7Q^2 + 10R^9Q + 3P^3R^8Q + 10P^6R^7Q + 3P^2R^9 + P^5R^8) \\
& = (Q^3 - R^2)^5 - 13(4Q^{15} - 36P^2Q^{14} - 36P^4Q^{13} + 8PRQ^{13} - 9P^6Q^{12} + 29R^2Q^{12} + 32P^3RQ^{12} + \\
& 27P^2R^2Q^{11} + 6P^5RQ^{11} + 10PR^3Q^{10} - 23P^4R^2Q^{10} - 28P^7RQ^{10} + 9R^4Q^9 - 8P^3R^3Q^9 + \\
& 34P^6R^2Q^9 - 6P^5R^3Q^8 + 14PR^5Q^7 + 19P^4R^4Q^7 - 36P^7R^3Q^7 + 36R^6Q^6 + 4P^3R^5Q^6 - 4P^6R^4Q^6 + \\
& 6P^2R^6Q^5 - 4PR^7Q^4 + 33P^4R^6Q^4 - 16P^7R^5Q^4 + 55R^8Q^3 - 4P^3R^7Q^3 + 25P^6R^6Q^3 - 27P^2R^8Q^2 - \\
& 18P^5R^7Q^2 - 38PR^9Q - 8P^4R^8Q - 40P^7R^7Q + 3R^{10} - 12P^3R^9 - P^6R^8)
\end{aligned}$$

$$12^7\vartheta^7(4RQ^{10} + 7R^3Q^7 + 6R^5Q^4 + 2R^7Q) \equiv (Q^3 - R^2)^5 \pmod{13}$$


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$$p_{14}(17t + 15) \equiv 0 \pmod{17}$$

$$\begin{aligned}
& 12\vartheta(10P^5Q^3 + P^3Q^4 + 2PQ^5 + 9P^4Q^2R + 15P^2Q^3R + 8Q^4R + 12P^5R^2 + 15P^3QR^2 + 6PQ^2R^2 + \\
& 3P^2R^3 + 4QR^3) \\
& = (Q^3 - R^2)^2 - 17(-10P^6Q^3 + 5P^4Q^4 + 3P^2Q^5 + 3Q^6 + 6P^5Q^2R - 4P^3Q^3R - 2PQ^4R - \\
& 12P^6R^2 - 9P^4QR^2 + 9P^2Q^2R^2 + 12Q^3R^2 - 2PQR^3 + R^4)
\end{aligned}$$

$$12^6\vartheta^6(7Q^3 + 5R^2) \equiv (Q^3 - R^2)^2 \pmod{17}$$

$$p_4(17t + 14) \equiv 0 \pmod{17}$$

$$\begin{aligned}
& 12\vartheta(14RQ^7 + 2R^3Q^4 + 13R^5Q) \\
& = (Q^3 - R^2)^3 - 17(5Q^9 - 28PRQ^7 + 25R^2Q^6 - 4PR^3Q^4 + 25R^4Q^3 - 26PR^5Q + 3R^6)
\end{aligned}$$

$$p_8(17t + 11) \equiv 0 \pmod{17}$$

$$\begin{aligned}
& 12\vartheta(14PQ^{17} + 8P^2Q^{15}R + 6Q^{16}R + 11PQ^{14}R^2 + 7P^2Q^{12}R^3 + 2Q^{13}R^3 + 15PQ^{11}R^4 + 8P^2Q^9R^5 + \\
& 8Q^{10}R^5 + 10PQ^8R^6 + 12P^2Q^6R^7 + 8Q^7R^7 + 13PQ^5R^8 + 16P^2Q^3R^9 + Q^4R^9 + 15PQ^2R^{10} + \\
& 12P^2R^{11} + 4QR^{11}) \\
& = (Q^3 - R^2)^6 - 17(-54P^2Q^{17} + 3Q^{18} - 32P^3Q^{15}R + 40PQ^{16}R - 9P^2Q^{14}R^2 + 25Q^{15}R^2 - \\
& 28P^3Q^{12}R^3 + 50PQ^{13}R^3 - 27P^2Q^{11}R^4 + 22Q^{12}R^4 - 32P^3Q^9R^5 + 28PQ^{10}R^5 + 6P^2Q^8R^6 + \\
& 38Q^9R^6 - 48P^3Q^6R^7 + 24PQ^7R^7 + 15P^2Q^5R^8 + 18Q^6R^8 - 64P^3Q^3R^9 + 66PQ^4R^9 - 3P^2Q^2R^{10} + \\
& 17Q^3R^{10} - 48P^3R^{11} - 8PQR^{11} + R^{12})
\end{aligned}$$

$$12^3\vartheta^3(4RQ^{15} + 12R^3Q^{12} + 4R^5Q^9 + 6R^7Q^6 + 8R^9Q^3 + 6R^{11}) \equiv (Q^3 - R^2)^6 \pmod{17}$$

$$p_3(17t + 2) \equiv 0 \pmod{17}$$

$$\begin{aligned}
& 12\vartheta(14PQ^{44} + 8P^3Q^{43} + 6RQ^{43} + 15P^5Q^{42} + P^2RQ^{42} + 8P^7Q^{41} + 11PR^2Q^{41} + 14P^4RQ^{41} + \\
& 9R^3Q^{40} + 3P^3R^2Q^{40} + P^6RQ^{40} + 2P^2R^3Q^{39} + P^5R^2Q^{39} + 7P^8RQ^{39} + 7PR^4Q^{38} + 9P^4R^3Q^{38} + \\
& 8P^7R^2Q^{38} + 14R^5Q^{37} + 13P^3R^4Q^{37} + 8P^6R^3Q^{37} + 16P^2R^5Q^{36} + 10P^5R^4Q^{36} + 4P^8R^3Q^{36} + \\
& PR^6Q^{35} + 11P^4R^5Q^{35} + 11P^7R^4Q^{35} + 6R^7Q^{34} + 16P^3R^6Q^{34} + 6P^6R^5Q^{34} + 15P^2R^7Q^{33} + \\
& 15P^5R^6Q^{33} + P^8R^5Q^{33} + PR^8Q^{32} + 10P^4R^7Q^{32} + 14P^7R^6Q^{32} + 15R^9Q^{31} + 6P^3R^8Q^{31} + \\
& 4P^6R^7Q^{31} + 5P^2R^9Q^{30} + 3P^5R^8Q^{30} + 15P^8R^7Q^{30} + 15PR^{10}Q^{29} + 9P^4R^9Q^{29} + 14R^{11}Q^{28} + \\
& 13P^3R^{10}Q^{28} + 2P^6R^9Q^{28} + 12P^2R^{11}Q^{27} + 8P^5R^{10}Q^{27} + 12P^8R^9Q^{27} + 12PR^{12}Q^{26} + 8P^4R^{11}Q^{26} + \\
& 3P^7R^{10}Q^{26} + 13R^{13}Q^{25} + 3P^3R^{12}Q^{25} + 2P^2R^{13}Q^{24} + 13P^5R^{12}Q^{24} + 9P^8R^{11}Q^{24} + 9PR^{14}Q^{23} + \\
& 7P^4R^{13}Q^{23} + 6P^7R^{12}Q^{23} + 12R^{15}Q^{22} + 10P^3R^{14}Q^{22} + 15P^6R^{13}Q^{22} + 9P^2R^{15}Q^{21} + P^5R^{14}Q^{21} + \\
& 6P^8R^{13}Q^{21} + 6PR^{16}Q^{20} + 6P^4R^{15}Q^{20} + 9P^7R^{14}Q^{20} + 11R^{17}Q^{19} + 13P^6R^{15}Q^{19} + 16P^2R^{17}Q^{18} + \\
& 6P^5R^{16}Q^{18} + 3P^8R^{15}Q^{18} + 3PR^{18}Q^{17} + 5P^4R^{17}Q^{17} + 12P^7R^{16}Q^{17} + 10R^{19}Q^{16} + 7P^3R^{18}Q^{16} + \\
& 11P^6R^{17}Q^{16} + 6P^2R^{19}Q^{15} + 11P^5R^{18}Q^{15} + 10P^8R^{17}Q^{15} + 4P^4R^{19}Q^{14} + 13P^7R^{18}Q^{14} + 9R^{21}Q^{13} +
\end{aligned}$$

$$\begin{aligned}
& 14P^3R^{20}Q^{13} + 13P^6R^{19}Q^{13} + 13P^2R^{21}Q^{12} + 9P^5R^{20}Q^{12} + 12P^8R^{19}Q^{12} + 14PR^{22}Q^{11} + \\
& 8P^4R^{21}Q^{11} + P^7R^{20}Q^{11} + 8R^{23}Q^{10} + 9P^3R^{22}Q^{10} + P^6R^{21}Q^{10} + 4P^2R^{23}Q^9 + 8P^5R^{22}Q^9 + \\
& 15P^8R^{21}Q^9 + 15PR^{24}Q^8 + 5P^4R^{23}Q^8 + 15P^7R^{22}Q^8 + 14R^{25}Q^7 + 15P^3R^{24}Q^7 + 16P^6R^{23}Q^7 + \\
& 11P^2R^{25}Q^6 + 14P^5R^{24}Q^6 + P^8R^{23}Q^6 + 6PR^{26}Q^5 + 12P^4R^{25}Q^5 + 11P^7R^{24}Q^5 + 9R^{27}Q^4 + \\
& 2P^3R^{26}Q^4 + 8P^6R^{25}Q^4 + 3P^2R^{27}Q^3 + 7P^5R^{26}Q^3 + 10P^8R^{25}Q^3 + 10PR^{28}Q^2 + 14P^4R^{27}Q^2 + \\
& 13P^7R^{26}Q^2 + 13R^{29}Q + P^3R^{28}Q + 12P^6R^{27}Q + 12P^2R^{29} + 16P^5R^{28} + 7P^8R^{27}) \\
& = (Q^3 - R^2)^{15} - 17(3Q^{45} - 144P^2Q^{44} - 73P^4Q^{43} + 90PRQ^{43} - 149P^6Q^{42} + 70R^2Q^{42} + \\
& 76P^3RQ^{42} - 78P^8Q^{41} - 102P^2R^2Q^{41} + 6P^5RQ^{41} + 22PR^3Q^{40} + 114P^4R^2Q^{40} + 76P^7RQ^{40} + \\
& 116R^4Q^{39} + 28P^3R^3Q^{39} + 11P^6R^2Q^{39} - 70P^9RQ^{39} - 24P^2R^4Q^{38} - 66P^5R^3Q^{38} - 12P^8R^2Q^{38} - \\
& 80PR^5Q^{37} - 31P^4R^4Q^{37} + 8P^7R^3Q^{37} + 110R^6Q^{36} - 16P^3R^5Q^{36} - 17P^6R^4Q^{36} - 40P^9R^3Q^{36} + \\
& 165P^2R^6Q^{35} + 6P^5R^5Q^{35} - 75P^8R^4Q^{35} - 50PR^7Q^{34} - 45P^4R^6Q^{34} + 60P^7R^5Q^{34} + 176R^8Q^{33} - \\
& 8P^3R^7Q^{33} - 89P^6R^6Q^{33} - 10P^9R^5Q^{33} + 123P^2R^8Q^{32} + 24P^5R^7Q^{32} - 96P^8R^6Q^{32} - 96PR^9Q^{31} + \\
& 43P^4R^8Q^{31} + 72P^7R^7Q^{31} - 12R^{10}Q^{30} + 40P^3R^9Q^{30} + 5P^6R^8Q^{30} - 150P^9R^7Q^{30} - 72P^2R^{10}Q^{29} - \\
& 42P^5R^9Q^{29} + 144P^8R^8Q^{29} + 8PR^{11}Q^{28} - 39P^4R^{10}Q^{28} - 4P^7R^9Q^{28} + 447R^{12}Q^{27} - 24P^3R^{11}Q^{27} - \\
& 67P^6R^{10}Q^{27} - 120P^9R^9Q^{27} - 39P^2R^{12}Q^{26} + 24P^5R^{11}Q^{26} + 81P^8R^{10}Q^{26} - 18PR^{13}Q^{25} + \\
& 54P^4R^{12}Q^{25} + 48P^7R^{11}Q^{25} - 238R^{14}Q^{24} + 48P^3R^{13}Q^{24} - 61P^6R^{12}Q^{24} - 90P^9R^{11}Q^{24} - \\
& 33P^2R^{14}Q^{23} + 12P^5R^{13}Q^{23} + 18P^8R^{12}Q^{23} - 42PR^{15}Q^{22} - 33P^4R^{14}Q^{22} - 72P^7R^{13}Q^{22} + \\
& 507R^{16}Q^{21} - 40P^3R^{15}Q^{21} + 140P^6R^{14}Q^{21} - 60P^9R^{13}Q^{21} + 78P^2R^{16}Q^{20} - 18P^5R^{15}Q^{20} - \\
& 45P^8R^{14}Q^{20} - 66PR^{17}Q^{19} + 60P^4R^{16}Q^{19} - 20P^7R^{15}Q^{19} - 178R^{18}Q^{18} - 120P^3R^{17}Q^{18} + \\
& 68P^6R^{16}Q^{18} - 30P^9R^{15}Q^{18} + 78P^2R^{18}Q^{17} + 48P^5R^{17}Q^{17} - 48P^8R^{16}Q^{17} - 92PR^{19}Q^{16} - \\
& 22P^4R^{18}Q^{16} + 24P^7R^{17}Q^{16} + 281R^{20}Q^{15} + 64P^3R^{19}Q^{15} + 22P^6R^{18}Q^{15} - 100P^9R^{17}Q^{15} + \\
& 120P^2R^{20}Q^{14} + 66P^5R^{19}Q^{14} - 15P^8R^{18}Q^{14} + 16PR^{21}Q^{13} - 69P^4R^{20}Q^{13} - 76P^7R^{19}Q^{13} + \\
& 13R^{22}Q^{12} - 20P^3R^{21}Q^{12} - 44P^6R^{20}Q^{12} - 120P^9R^{19}Q^{12} - 75P^2R^{22}Q^{11} + 6P^5R^{21}Q^{11} + \\
& 135P^8R^{20}Q^{11} + 80PR^{23}Q^{10} - 29P^4R^{22}Q^{10} + 116P^7R^{21}Q^{10} + 170R^{24}Q^9 + 108P^3R^{23}Q^9 + \\
& 57P^6R^{22}Q^9 - 150P^9R^{21}Q^9 - 48P^2R^{24}Q^8 + 90P^5R^{23}Q^8 - 111P^8R^{22}Q^8 - 62PR^{25}Q^7 - \\
& 35P^4R^{24}Q^7 - 40P^7R^{23}Q^7 + 103R^{26}Q^6 - 68P^3R^{25}Q^6 - 41P^6R^{24}Q^6 - 10P^9R^{23}Q^6 - 18P^2R^{26}Q^5 - \\
& 36P^5R^{25}Q^5 - 21P^8R^{24}Q^5 + 12PR^{27}Q^4 + 129P^4R^{26}Q^4 + 56P^7R^{25}Q^4 + 143R^{28}Q^3 - 16P^3R^{27}Q^3 + \\
& 56P^6R^{26}Q^3 - 100P^9R^{25}Q^3 + 21P^2R^{28}Q^2 + 24P^5R^{27}Q^2 - 57P^8R^{26}Q^2 - 130PR^{29}Q + P^4R^{28}Q - \\
& 112P^7R^{27}Q + 3R^{30} - 124P^3R^{29} - 160P^6R^{28} - 70P^9R^{27})
\end{aligned}$$

$$12^9\vartheta^9(11RQ^{39} + 16R^3Q^{36} + 4R^5Q^{33} + 9R^7Q^{30} + 14R^9Q^{27} + 2R^{11}Q^{24} + 7R^{13}Q^{21} + 12R^{15}Q^{18} + 6R^{17}Q^{15} + 14R^{19}Q^{12} + 9R^{21}Q^9 + 4R^{23}Q^6 + 6R^{25}Q^3 + 11R^{27}) \equiv (Q^3 - R^2)^{15} \pmod{17}$$

$$p_{10}(19t + 17) \equiv 0 \pmod{19}$$

$$\begin{aligned}
& 12\vartheta(9P^3Q^4 + 5PQ^5 + 13P^2Q^3R + 18Q^4R + 16P^3QR^2 + 13PQ^2R^2 + 7P^2R^3 + 14QR^3) \\
& = (Q^3 - R^2)^2 - 19(-9P^4Q^4 + 6Q^6 + 4P^3Q^3R - 6PQ^4R - 16P^4QR^2 + 3P^2Q^2R^2 + 29Q^3R^2 - \\
& 4P^3R^3 - 10PQR^3 + 3R^4)
\end{aligned}$$

$$12^4\vartheta^4(8Q^4 + 10R^2Q) \equiv (Q^3 - R^2)^2 \pmod{19}$$

$$p_6(19t + 14) \equiv 0 \pmod{19}$$

$$\begin{aligned}
& 12\vartheta(6PQ^{14} + 2RQ^{13} + 7PR^2Q^{11} + 11R^3Q^{10} + 9PR^4Q^8 + 17R^5Q^7 + 12PR^6Q^5 + 4R^7Q^4 + \\
& 3PR^8Q^2 + 5R^9Q) \\
& = (Q^3 - R^2)^5 - 19(Q^{15} - 18P^2Q^{14} + 16PRQ^{13} + 16R^2Q^{12} - 21P^2R^2Q^{11} - 6PR^3Q^{10} + 51R^4Q^9 - \\
& 27P^2R^4Q^8 - 14PR^5Q^7 + 34R^6Q^6 - 36P^2R^6Q^5 + 8PR^7Q^4 + 18R^8Q^3 - 9P^2R^8Q^2 - 14PR^9Q + R^{10})
\end{aligned}$$

$$12^2\vartheta^2(13Q^{14} + 12R^2Q^{11} + 10R^4Q^8 + 7R^6Q^5 + 16R^8Q^2) \equiv (Q^3 - R^2)^5 \pmod{19}$$

$$p_{12}(19t + 9) \equiv 0 \pmod{19}$$

$$\begin{aligned} & 12\vartheta(5P^3Q^{28} + 4PQ^{29} + 4P^4Q^{26}R + 9P^2Q^{27}R + 15Q^{28}R + P^3Q^{25}R^2 + 6PQ^{26}R^2 + 16P^4Q^{23}R^3 + \\ & 7P^2Q^{24}R^3 + 4Q^{25}R^3 + 8P^3Q^{22}R^4 + PQ^{23}R^4 + 12P^4Q^{20}R^5 + 13P^2Q^{21}R^5 + 13Q^{22}R^5 + 2P^3Q^{19}R^6 + \\ & 14PQ^{20}R^6 + 17P^4Q^{17}R^7 + 2P^2Q^{18}R^7 + 16Q^{19}R^7 + 5P^3Q^{16}R^8 + 8PQ^{17}R^8 + 10P^4Q^{14}R^9 + \\ & 7P^2Q^{15}R^9 + 3Q^{16}R^9 + 5P^3Q^{13}R^{10} + 8PQ^{14}R^{10} + 8P^4Q^{11}R^{11} + 5P^2Q^{12}R^{11} + 10Q^{13}R^{11} + \\ & 4P^3Q^{10}R^{12} + 16P^4Q^8R^{13} + 7P^2Q^9R^{13} + 15Q^{10}R^{13} + 7P^3Q^7R^{14} + PQ^8R^{14} + 6P^4Q^5R^{15} + \\ & 16P^2Q^6R^{15} + 5Q^7R^{15} + 2P^3Q^4R^{16} + 13PQ^5R^{16} + 13P^4Q^2R^{17} + 15P^2Q^3R^{17} + 7Q^4R^{17} + \\ & 9P^3QR^{18} + 12PQ^2R^{18} + 18P^2R^{19} + 14QR^{19}) \\ & = (Q^3 - R^2)^{10} - 19(-29P^4Q^{28} - 21P^2Q^{29} + 5Q^{30} - 24P^5Q^{26}R - 24P^3Q^{27}R - 64PQ^{28}R + \\ & 31P^4Q^{25}R^2 + 21P^2Q^{26}R^2 + 92Q^{27}R^2 - 96P^5Q^{23}R^3 - 24P^3Q^{24}R^3 + 10PQ^{25}R^3 + 48P^4Q^{22}R^4 + \\ & 51P^2Q^{23}R^4 + 44Q^{24}R^4 - 72P^5Q^{20}R^5 - 36P^3Q^{21}R^5 - 48PQ^{22}R^5 + 76P^4Q^{19}R^6 - 24P^2Q^{20}R^6 + \\ & 90Q^{21}R^6 - 102P^5Q^{17}R^7 + 12P^3Q^{18}R^7 - 20PQ^{19}R^7 + 59P^4Q^{16}R^8 - 21P^2Q^{17}R^8 + 84Q^{18}R^8 - \\ & 60P^5Q^{14}R^9 - 8P^3Q^{15}R^9 + 36PQ^{16}R^9 + 27P^4Q^{13}R^{10} - 9P^2Q^{14}R^{10} + 32Q^{15}R^{10} - 48P^5Q^{11}R^{11} - \\ & 38PQ^{13}R^{11} + 60P^4Q^{10}R^{12} + 42P^2Q^{11}R^{12} + 100Q^{12}R^{12} - 96P^5Q^8R^{13} - 88PQ^{10}R^{13} + \\ & 13P^4Q^7R^{14} + 84P^2Q^8R^{14} + 49Q^9R^{14} - 36P^5Q^5R^{15} - 76P^3Q^6R^{15} + 38PQ^7R^{15} + 64P^4Q^4R^{16} + \\ & 21P^2Q^5R^{16} + 48Q^6R^{16} - 78P^5Q^2R^{17} - 36P^3Q^3R^{17} + 40PQ^4R^{17} - 49P^4QR^{18} + 45P^2Q^2R^{18} + \\ & 90Q^3R^{18} - 108P^3R^{19} - 80PQR^{19} + 3R^{20}) \end{aligned}$$

$$12^5\vartheta^5(16RQ^{26} + 7R^3Q^{23} + 10R^5Q^{20} + 11R^7Q^{17} + 2R^9Q^{14} + 13R^{11}Q^{11} + 7R^{13}Q^8 + 5R^{15}Q^5 + 14R^{17}Q^2) \equiv (Q^3 - R^2)^{10} \pmod{19}$$

$$p_3(19t + 7) \equiv 0 \pmod{19}$$

$$\begin{aligned} & 12\vartheta(16PQ^{35} + 15P^3Q^{34} + 13RQ^{34} + 17P^5Q^{33} + 17P^2RQ^{33} + 12P^7Q^{32} + 15PR^2Q^{32} + 4P^4RQ^{32} + \\ & 15P^9Q^{31} + 4R^3Q^{31} + 8P^3R^2Q^{31} + 10P^6RQ^{31} + P^2R^3Q^{30} + 6P^5R^2Q^{30} + 10P^8RQ^{30} + 18PR^4Q^{29} + \\ & 4P^7R^2Q^{29} + 6R^5Q^{28} + 12P^3R^4Q^{28} + 9P^6R^3Q^{28} + P^9R^2Q^{28} + 11P^2R^5Q^{27} + P^5R^4Q^{27} + \\ & 4P^8R^3Q^{27} + 2PR^6Q^{26} + 13P^4R^5Q^{26} + 5P^7R^4Q^{26} + 10R^7Q^{25} + 4P^3R^6Q^{25} + 4P^6R^5Q^{25} + \\ & 5P^9R^4Q^{25} + 8P^2R^7Q^{24} + 5P^5R^6Q^{24} + 18P^8R^5Q^{24} + 17PR^8Q^{23} + 18P^4R^7Q^{23} + 3P^7R^6Q^{23} + \\ & 10R^9Q^{22} + 4P^3R^8Q^{22} + 9P^6R^7Q^{22} + 13P^9R^6Q^{22} + 12P^2R^9Q^{21} + 5P^5R^8Q^{21} + P^8R^7Q^{21} + \\ & PR^{10}Q^{20} + 14P^4R^9Q^{20} + 18P^7R^8Q^{20} + 7R^{11}Q^{19} + 6P^3R^{10}Q^{19} + 8P^6R^9Q^{19} + 13P^9R^8Q^{19} + \\ & 3P^2R^{11}Q^{18} + 13P^5R^{10}Q^{18} + 17P^8R^9Q^{18} + PR^{12}Q^{17} + 18P^4R^{11}Q^{17} + 2P^7R^{10}Q^{17} + 3R^{13}Q^{16} + \\ & 8P^3R^{12}Q^{16} + 12P^9R^{10}Q^{16} + 17P^2R^{13}Q^{15} + 12P^5R^{12}Q^{15} + 15P^8R^{11}Q^{15} + 12PR^{14}Q^{14} + \\ & 9P^4R^{13}Q^{14} + 7P^7R^{12}Q^{14} + 4R^{15}Q^{13} + P^3R^{14}Q^{13} + 9P^6R^{13}Q^{13} + 3P^9R^{12}Q^{13} + 3P^2R^{15}Q^{12} + \\ & 11P^5R^{14}Q^{12} + 9P^8R^{13}Q^{12} + 4PR^{16}Q^{11} + 8P^4R^{15}Q^{11} + 13R^{17}Q^{10} + 13P^3R^{16}Q^{10} + 5P^6R^{15}Q^{10} + \\ & 3P^9R^{14}Q^{10} + 11P^2R^{17}Q^9 + 14P^5R^{16}Q^9 + 12P^8R^{15}Q^9 + 4PR^{18}Q^8 + 16P^4R^{17}Q^8 + 14P^7R^{16}Q^8 + \\ & R^{19}Q^7 + 18P^3R^{18}Q^7 + 17P^6R^{17}Q^7 + 6P^9R^{16}Q^7 + 8P^2R^{19}Q^6 + 18P^5R^{18}Q^6 + 16P^8R^{17}Q^6 + \\ & 6PR^{20}Q^5 + 2P^7R^{18}Q^5 + 17R^{21}Q^4 + 14P^3R^{20}Q^4 + 2P^6R^{19}Q^4 + 13P^2R^{21}Q^3 + 2P^5R^{20}Q^3 + \\ & 7P^8R^{19}Q^3 + 12PR^{22}Q^2 + 3P^4R^{21}Q^2 + 4P^7R^{20}Q^2 + 14R^{23}Q + 12P^3R^{22}Q + 2P^6R^{21}Q + \\ & 17P^9R^{20}Q + 15P^2R^{23} + 2P^5R^{22} + 11P^8R^{21}) \\ & = (Q^3 - R^2)^{12} - 19(5Q^{36} - 111P^2Q^{35} - 104P^4Q^{34} + 32PRQ^{34} - 115P^6Q^{33} + 97R^2Q^{33} - \\ & 12P^3RQ^{33} - 75P^8Q^{32} + 9P^2R^2Q^{32} + 96P^5RQ^{32} - 105P^{10}Q^{31} + 94PR^3Q^{31} - 30P^4R^2Q^{31} + \\ & 16P^7RQ^{31} + 40R^4Q^{30} + 60P^3R^3Q^{30} + 32P^6R^2Q^{30} + 28P^9RQ^{30} - 108P^2R^4Q^{29} + 42P^5R^3Q^{29} + \\ & 39P^8R^2Q^{29} + 70PR^5Q^{28} - 67P^4R^4Q^{28} - 32P^7R^3Q^{28} - 7P^{10}R^2Q^{28} + 46R^6Q^{27} + 54P^6R^4Q^{27} - \\ & 16P^9R^3Q^{27} + 66P^2R^6Q^{26} - 78P^5R^5Q^{26} + 18P^8R^4Q^{26} - 20PR^7Q^{25} + 83P^4R^6Q^{25} + 12P^7R^5Q^{25} - \\ & 35P^{10}R^4Q^{25} + 108R^8Q^{24} - 24P^3R^7Q^{24} + 6P^6R^6Q^{24} - 76P^9R^5Q^{24} - 51P^2R^8Q^{23} - 90P^5R^7Q^{23} + \\ & 78P^8R^6Q^{23} + 12PR^9Q^{22} + 99P^4R^8Q^{22} - 4P^7R^7Q^{22} - 91P^{10}R^6Q^{22} + 29R^{10}Q^{21} - 48P^3R^9Q^{21} + \\ & 35P^6R^8Q^{21} + 86P^9R^7Q^{21} + 57P^2R^{10}Q^{20} - 36P^5R^9Q^{20} - 69P^8R^8Q^{20} - 44PR^{11}Q^{19} + \\ & 81P^4R^{10}Q^{19} + 32P^7R^9Q^{19} - 91P^{10}R^8Q^{19} + 89R^{12}Q^{18} + 36P^3R^{11}Q^{18} - 61P^6R^{10}Q^{18} - \\ & 30P^9R^9Q^{18} + 75P^2R^{12}Q^{17} - 36P^5R^{11}Q^{17} + 108P^8R^{10}Q^{17} + 36PR^{13}Q^{16} + 46P^4R^{12}Q^{16} + \end{aligned}$$

$$\begin{aligned}
& 40P^7R^{11}Q^{16} - 84P^{10}R^{10}Q^{16} - 12R^{14}Q^{15} - 92P^3R^{13}Q^{15} - 47P^6R^{12}Q^{15} - 54P^9R^{11}Q^{15} - \\
& 21P^2R^{14}Q^{14} + 24P^5R^{13}Q^{14} + 36P^8R^{12}Q^{14} + 26PR^{15}Q^{13} + 60P^4R^{14}Q^{13} - 40P^7R^{13}Q^{13} - \\
& 21P^{10}R^{12}Q^{13} + 107R^{16}Q^{12} + 48P^3R^{15}Q^{12} - 31P^6R^{14}Q^{12} - 42P^9R^{13}Q^{12} + 39P^2R^{16}Q^{11} + \\
& 42P^5R^{15}Q^{11} + 81P^8R^{14}Q^{11} - 64PR^{17}Q^{10} + 13P^4R^{16}Q^{10} + 40P^7R^{15}Q^{10} - 21P^{10}R^{14}Q^{10} + \\
& 22R^{18}Q^9 + 52P^3R^{17}Q^9 + 6P^6R^{16}Q^9 - 48P^9R^{15}Q^9 + 42P^2R^{18}Q^8 + 18P^5R^{17}Q^8 + 12P^8R^{16}Q^8 + \\
& 38PR^{19}Q^7 - 100P^4R^{18}Q^7 - 80P^7R^{17}Q^7 - 42P^{10}R^{16}Q^7 + 118R^{20}Q^6 + 56P^3R^{19}Q^6 - 92P^6R^{18}Q^6 - \\
& 104P^9R^{17}Q^6 + 54P^2R^{20}Q^5 + 36P^5R^{19}Q^5 + 48P^8R^{18}Q^5 - 36PR^{21}Q^4 - 82P^4R^{20}Q^4 + \\
& 16P^7R^{19}Q^4 + 116R^{22}Q^3 + 2P^6R^{20}Q^3 + 58P^9R^{19}Q^3 + 30P^2R^{22}Q^2 - 6P^5R^{21}Q^2 + 57P^8R^{20}Q^2 - \\
& 98PR^{23}Q - 86P^4R^{22}Q - 8P^7R^{21}Q - 119P^{10}R^{20}Q + 3R^{24} - 108P^3R^{23} - 14P^6R^{22} - 74P^9R^{21})
\end{aligned}$$

$$12^{10}\vartheta^{10}(15Q^{31} + R^2Q^{28} + 5R^4Q^{25} + 13R^6Q^{22} + 13R^8Q^{19} + 12R^{10}Q^{16} + 3R^{12}Q^{13} + 3R^{14}Q^{10} + 6R^{16}Q^7 + 17R^{20}Q) \equiv (Q^3 - R^2)^{12} \pmod{19}$$

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$$p_4(23t + 19) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(19RQ^{10} + 4R^3Q^7 + 16R^5Q^4 + 17R^7Q) \\
& = (Q^3 - R^2)^4 - 23(5Q^{12} - 38PRQ^{10} + 36R^2Q^9 - 8PR^3Q^7 + 26R^4Q^6 - 32PR^5Q^4 + 42R^6Q^3 - \\
& 34PR^7Q + 3R^8)
\end{aligned}$$

$$p_6(23t + 17) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(3PQ^{17} + 7RQ^{16} + 20PR^2Q^{14} + 5R^3Q^{13} + 12PR^4Q^{11} + 5R^5Q^{10} + 4PR^6Q^8 + 5PR^8Q^5 + \\
& 9R^9Q^4 + 5PR^{10}Q^2 + 17R^{11}Q) \\
& = (Q^3 - R^2)^6 - 23(2Q^{18} - 9P^2Q^{17} - 2PRQ^{16} + 24R^2Q^{15} - 60P^2R^2Q^{14} + 46PR^3Q^{13} + 19R^4Q^{12} - \\
& 36P^2R^4Q^{11} + 14PR^5Q^{10} + 8R^6Q^9 - 12P^2R^6Q^8 + 16PR^7Q^7 + 22R^8Q^6 - 15P^2R^8Q^5 - 10PR^9Q^4 + \\
& 55R^{10}Q^3 - 15P^2R^{10}Q^2 - 50PR^{11}Q + 3R^{12})
\end{aligned}$$

$$12^2\vartheta^2(20Q^{17} + 3R^2Q^{14} + 11R^4Q^{11} + 19R^6Q^8 + 18R^8Q^5 + 18R^{10}Q^2) \equiv (Q^3 - R^2)^6 \pmod{23}$$

$$p_8(23t + 15) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(22PQ^{23} + 19P^2RQ^{21} + 16PR^2Q^{20} + 20R^3Q^{19} + 17P^2R^3Q^{18} + 14PR^4Q^{17} + 20R^5Q^{16} + \\
& 21P^2R^5Q^{15} + 8PR^6Q^{14} + 9R^7Q^{13} + 14P^2R^7Q^{12} + PR^8Q^{11} + 16R^9Q^{10} + 11P^2R^9Q^9 + 14PR^{10}Q^8 + \\
& 20P^2R^{11}Q^6 + 6PR^{12}Q^5 + 9R^{13}Q^4 + P^2R^{13}Q^3 + 13PR^{14}Q^2 + 17R^{15}Q + 11P^2R^{15}) \\
& = (Q^3 - R^2)^8 - 23(Q^{24} - 84P^2Q^{23} + 98PRQ^{22} + 16R^2Q^{21} - 76P^3RQ^{21} + 18P^2R^2Q^{20} - \\
& 10PR^3Q^{19} + 94R^4Q^{18} - 68P^3R^3Q^{18} + 24P^2R^4Q^{17} - 26PR^5Q^{16} + 70R^6Q^{15} - 84P^3R^5Q^{15} + \\
& 48P^2R^6Q^{14} - 14PR^7Q^{13} + 61R^8Q^{12} - 56P^3R^7Q^{12} + 51P^2R^8Q^{11} - 26PR^9Q^{10} + 26R^{10}Q^9 - \\
& 44P^3R^9Q^9 + 18P^2R^{10}Q^8 + 40PR^{11}Q^7 + 32R^{12}Q^6 - 80P^3R^{11}Q^6 + 16PR^{13}Q^4 + 73R^{14}Q^3 - \\
& 4P^3R^{13}Q^3 - 9P^2R^{14}Q^2 - 64PR^{15}Q + 3R^{16} - 44P^3R^{15})
\end{aligned}$$

$$12^3\vartheta^3(21RQ^{21} + 20R^3Q^{18} + 22R^5Q^{15} + 7R^7Q^{12} + 17R^9Q^9 + 10R^{11}Q^6 + 12R^{13}Q^3 + 17R^{15}) \equiv (Q^3 - R^2)^8 \pmod{23}$$

$$p_{10}(23t + 13) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(4PQ^{29} + 7P^3Q^{28} + 3RQ^{28} + 17P^2RQ^{27} + 11PR^2Q^{26} + 3R^3Q^{25} + 7P^3R^2Q^{25} + 22P^2R^3Q^{24} + \\
& 17PR^4Q^{23} + 14R^5Q^{22} + 12P^3R^4Q^{22} + 20P^2R^5Q^{21} + 9PR^6Q^{20} + 10R^7Q^{19} + 7P^3R^6Q^{19} + \\
& P^2R^7Q^{18} + 22PR^8Q^{17} + 14R^9Q^{16} + 22P^3R^8Q^{16} + 17P^2R^9Q^{15} + 12PR^{10}Q^{14} + 4R^{11}Q^{13} + \\
& 14P^3R^{10}Q^{13} + P^2R^{11}Q^{12} + 17PR^{12}Q^{11} + 13R^{13}Q^{10} + 3P^3R^{12}Q^{10} + 11PR^{14}Q^8 + 10R^{15}Q^7 + \\
& 15P^3R^{14}Q^7 + 2R^{17}Q^4 + 10P^3R^{16}Q^4 + 20P^2R^{17}Q^3 + 18PR^{18}Q^2 + 17R^{19}Q + 20P^3R^{18}Q +
\end{aligned}$$



$$\begin{aligned}
& 11P^2R^{19}) \\
& = (Q^3 - R^2)^{10} - 23(Q^{30} - 15P^2Q^{29} - 35P^4Q^{28} + 12PRQ^{28} + 17R^2Q^{27} - 48P^3RQ^{27} + \\
& 42P^2R^2Q^{26} + 54PR^3Q^{25} - 35P^4R^2Q^{25} + 34R^4Q^{24} - 68P^3R^3Q^{24} + 33P^2R^4Q^{23} + 12PR^5Q^{22} - \\
& 60P^4R^4Q^{22} + 67R^6Q^{21} - 44P^3R^5Q^{21} + 30P^2R^6Q^{20} + 26PR^7Q^{19} - 35P^4R^6Q^{19} + 76R^8Q^{18} + \\
& 64P^3R^7Q^{18} - 66P^2R^8Q^{17} + 26PR^9Q^{16} - 110P^4R^8Q^{16} + 40R^{10}Q^{15} + 12P^3R^9Q^{15} - 12P^2R^{10}Q^{14} + \\
& 62PR^{11}Q^{13} - 70P^4R^{10}Q^{13} + 63R^{12}Q^{12} + 36P^3R^{11}Q^{12} - 84P^2R^{12}Q^{11} + 6PR^{13}Q^{10} - \\
& 15P^4R^{12}Q^{10} + 57R^{14}Q^9 + 60P^3R^{13}Q^9 - 54P^2R^{14}Q^8 - 36PR^{15}Q^7 - 75P^4R^{14}Q^7 + 23R^{16}Q^6 + \\
& 60P^3R^{15}Q^6 + 90P^2R^{16}Q^5 + 76PR^{17}Q^4 - 50P^4R^{16}Q^4 + 86R^{18}Q^3 - 24P^2R^{18}Q^2 - 80PR^{19}Q - \\
& 100P^4R^{18}Q + 3R^{20} - 52P^3R^{19})
\end{aligned}$$

$$12^4\vartheta^4(18Q^{28} + 18R^2Q^{25} + 21R^4Q^{22} + 18R^6Q^{19} + 4R^8Q^{16} + 13R^{10}Q^{13} + 11R^{12}Q^{10} + 9R^{14}Q^7 + 6R^{16}Q^4 + 12R^{18}Q) \equiv (Q^3 - R^2)^{10} \pmod{23}$$

$$p_{14}(23t + 9) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(18PQ^{41} + 17P^3Q^{40} + 16RQ^{40} + 20P^5Q^{39} + 15P^2RQ^{39} + 15PR^2Q^{38} + 12P^4RQ^{38} + 20R^3Q^{37} + \\
& 5P^3R^2Q^{37} + 22P^2R^3Q^{36} + 17P^5R^2Q^{36} + 7PR^4Q^{35} + 21P^4R^3Q^{35} + 10R^5Q^{34} + P^3R^4Q^{34} + \\
& 11P^2R^5Q^{33} + 11P^5R^4Q^{33} + 17PR^6Q^{32} + 16P^4R^5Q^{32} + 6R^7Q^{31} + 19P^3R^6Q^{31} + 21P^2R^7Q^{30} + \\
& P^5R^6Q^{30} + 10PR^8Q^{29} + 15P^4R^7Q^{29} + 2R^9Q^{28} + 8P^3R^8Q^{28} + 9P^2R^9Q^{27} + 5P^5R^8Q^{27} + \\
& 2PR^{10}Q^{26} + 20P^4R^9Q^{26} + 6R^{11}Q^{25} + 16P^3R^{10}Q^{25} + 22P^5R^{10}Q^{24} + 2PR^{12}Q^{23} + 14P^4R^{11}Q^{23} + \\
& 16R^{13}Q^{22} + 6P^2R^{13}Q^{21} + 6P^5R^{12}Q^{21} + 3PR^{14}Q^{20} + 12P^4R^{13}Q^{20} + 13R^{15}Q^{19} + 21P^3R^{14}Q^{19} + \\
& 13P^2R^{15}Q^{18} + 4P^5R^{14}Q^{18} + 13PR^{16}Q^{17} + 9P^4R^{15}Q^{17} + 9R^{17}Q^{16} + 10P^3R^{16}Q^{16} + 19P^2R^{17}Q^{15} + \\
& 5P^5R^{16}Q^{15} + 7PR^{18}Q^{14} + 5P^4R^{17}Q^{14} + 7R^{19}Q^{13} + 4P^3R^{18}Q^{13} + 20P^2R^{19}Q^{12} + 6P^5R^{18}Q^{12} + \\
& 8PR^{20}Q^{11} + 3P^4R^{19}Q^{11} + 9R^{21}Q^{10} + 14P^3R^{20}Q^{10} + 8P^2R^{21}Q^9 + 12P^5R^{20}Q^9 + 4PR^{22}Q^8 + \\
& 6P^4R^{21}Q^8 + 5R^{23}Q^7 + 9P^3R^{22}Q^7 + 5P^2R^{23}Q^6 + 2P^5R^{22}Q^6 + 8PR^{24}Q^5 + 8P^4R^{23}Q^5 + 5R^{25}Q^4 + \\
& 5P^3R^{24}Q^4 + P^2R^{25}Q^3 + P^5R^{24}Q^3 + 9PR^{26}Q^2 + 12P^4R^{25}Q^2 + 17R^{27}Q + 2P^3R^{26}Q + 18P^2R^{27}) \\
& = (Q^3 - R^2)^{14} - 23(5Q^{42} - 123P^2Q^{41} - 113P^4Q^{40} + 22PRQ^{40} - 140P^6Q^{39} + 127R^2Q^{39} + \\
& 16P^3RQ^{39} + 12P^2R^2Q^{38} + 60P^5RQ^{38} - 36PR^3Q^{37} + 64P^4R^2Q^{37} + 146R^4Q^{36} - 120P^3R^3Q^{36} - \\
& 119P^6R^2Q^{36} + 102P^2R^4Q^{35} - 30P^5R^3Q^{35} - 2PR^5Q^{34} + 144P^4R^4Q^{34} + 55R^6Q^{33} - 40P^3R^5Q^{33} - \\
& 77P^6R^4Q^{33} - 18P^2R^6Q^{32} - 48P^5R^5Q^{32} + 74PR^7Q^{31} - 18P^4R^6Q^{31} + 81R^8Q^{30} - 28P^3R^7Q^{30} - \\
& 7P^6R^6Q^{30} + 60P^2R^8Q^{29} - 90P^5R^7Q^{29} + 42PR^9Q^{28} + 67P^4R^8Q^{28} - 60R^{10}Q^{27} + 20P^3R^9Q^{27} - \\
& 35P^6R^8Q^{27} + 30P^2R^{10}Q^{26} - 60P^5R^9Q^{26} - 28PR^{11}Q^{25} + 22P^4R^{10}Q^{25} + 211R^{12}Q^{24} + \\
& 72P^3R^{11}Q^{24} - 154P^6R^{10}Q^{24} + 6P^2R^{12}Q^{23} + 12P^5R^{11}Q^{23} - 96PR^{13}Q^{22} + 98P^4R^{12}Q^{22} - \\
& 37R^{14}Q^{21} + 36P^3R^{13}Q^{21} - 42P^6R^{12}Q^{21} + 54P^2R^{14}Q^{20} - 48P^5R^{13}Q^{20} - 28PR^{15}Q^{19} - \\
& 71P^4R^{14}Q^{19} + 214R^{16}Q^{18} + 20P^3R^{15}Q^{18} - 28P^6R^{14}Q^{18} + 33P^2R^{16}Q^{17} - 30P^5R^{15}Q^{17} + \\
& 8PR^{17}Q^{16} - 21P^4R^{16}Q^{16} - 27R^{18}Q^{15} - 88P^3R^{17}Q^{15} - 35P^6R^{16}Q^{15} + 99P^2R^{18}Q^{14} + 6P^5R^{17}Q^{14} + \\
& 10PR^{19}Q^{13} + 109R^{20}Q^{12} - 60P^3R^{19}Q^{12} - 42P^6R^{18}Q^{12} + 30P^2R^{20}Q^{11} + 54P^5R^{19}Q^{11} - \\
& 26PR^{21}Q^{10} - 58P^4R^{20}Q^{10} + 30R^{22}Q^9 + 20P^3R^{21}Q^9 - 84P^6R^{20}Q^9 + 15P^2R^{22}Q^8 - 12P^5R^{21}Q^8 + \\
& 20PR^{23}Q^7 - 7P^4R^{22}Q^7 + 43R^{24}Q^6 + 8P^3R^{23}Q^6 - 14P^6R^{22}Q^6 - 45P^2R^{24}Q^5 - 48P^5R^{23}Q^5 + \\
& 32PR^{25}Q^4 + 50P^4R^{24}Q^4 + 123R^{26}Q^3 + 12P^3R^{25}Q^3 - 7P^6R^{24}Q^3 + 63P^2R^{26}Q^2 - 84P^5R^{25}Q^2 - \\
& 118PR^{27}Q - 10P^4R^{26}Q + 3R^{28} - 128P^3R^{27})
\end{aligned}$$

$$12^6\vartheta^6(19Q^{39} + 15R^2Q^{36} + 7R^4Q^{33} + 9R^6Q^{30} + 22R^8Q^{27} + 14R^{10}Q^{24} + 8R^{12}Q^{21} + 13R^{14}Q^{18} + 22R^{16}Q^{15} + 8R^{18}Q^{12} + 16R^{20}Q^9 + 18R^{22}Q^6 + 9R^{24}Q^3) \equiv (Q^3 - R^2)^{14} \pmod{23}$$

$$p_{18}(23t + 5) \equiv 0 \pmod{23}$$

$$\begin{aligned}
& 12\vartheta(14PQ^{53} + 4P^3Q^{52} + 9RQ^{52} + 20P^5Q^{51} + 12P^2RQ^{51} + 20P^7Q^{50} + 7PR^2Q^{50} + \\
& 9P^4RQ^{50} + 18R^3Q^{49} + 17P^3R^2Q^{49} + 14P^6RQ^{49} + 13P^2R^3Q^{48} + 6P^5R^2Q^{48} + 11PR^4Q^{47} + \\
& 12P^4R^3Q^{47} + 9P^7R^2Q^{47} + 18R^5Q^{46} + 20P^3R^4Q^{46} + 7P^6R^3Q^{46} + 9P^2R^5Q^{45} + 15P^5R^4Q^{45} +
\end{aligned}$$

$$\begin{aligned}
& 12PR^6Q^{44} + 7P^4R^5Q^{44} + 17P^7R^4Q^{44} + 6R^7Q^{43} + 19P^3R^6Q^{43} + 7P^6R^5Q^{43} + 16P^2R^7Q^{42} + \\
& 3P^5R^6Q^{42} + 7PR^8Q^{41} + 11P^4R^7Q^{41} + 11P^7R^6Q^{41} + 8R^9Q^{40} + 17P^3R^8Q^{40} + 14P^6R^7Q^{40} + \\
& 5P^2R^9Q^{39} + 10P^5R^8Q^{39} + 10PR^{10}Q^{38} + P^4R^9Q^{38} + 2P^7R^8Q^{38} + 12R^{11}Q^{37} + 6P^3R^{10}Q^{37} + \\
& 14P^6R^9Q^{37} + 16P^2R^{11}Q^{36} + 6P^5R^{10}Q^{36} + 9PR^{12}Q^{35} + 22P^4R^{11}Q^{35} + 22P^7R^{10}Q^{35} + \\
& 16R^{13}Q^{34} + 8P^3R^{12}Q^{34} + 2P^6R^{11}Q^{34} + 8P^2R^{13}Q^{33} + 6P^5R^{12}Q^{33} + 19PR^{14}Q^{32} + 3P^4R^{13}Q^{32} + \\
& 9P^7R^{12}Q^{32} + 9R^{15}Q^{31} + 6P^3R^{14}Q^{31} + 5P^6R^{13}Q^{31} + 20P^2R^{15}Q^{30} + P^5R^{14}Q^{30} + 13PR^{16}Q^{29} + \\
& 10P^4R^{15}Q^{29} + 14P^7R^{14}Q^{29} + 17R^{17}Q^{28} + 13P^3R^{16}Q^{28} + 13P^6R^{15}Q^{28} + 10P^2R^{17}Q^{27} + \\
& 4P^5R^{16}Q^{27} + 14PR^{18}Q^{26} + 16P^4R^{17}Q^{26} + 17P^7R^{16}Q^{26} + 11R^{19}Q^{25} + 3P^3R^{18}Q^{25} + 2P^6R^{17}Q^{25} + \\
& 16P^2R^{19}Q^{24} + 4P^5R^{18}Q^{24} + 3PR^{20}Q^{23} + 16P^4R^{19}Q^{23} + 19P^7R^{18}Q^{23} + 22R^{21}Q^{22} + 3P^3R^{20}Q^{22} + \\
& 3P^6R^{19}Q^{22} + 18P^2R^{21}Q^{21} + 12P^5R^{20}Q^{21} + 11PR^{22}Q^{20} + 4P^4R^{21}Q^{20} + 19P^7R^{20}Q^{20} + \\
& 14R^{23}Q^{19} + P^3R^{22}Q^{19} + 10P^6R^{21}Q^{19} + 7P^2R^{23}Q^{18} + 15P^5R^{22}Q^{18} + 13PR^{24}Q^{17} + 19P^4R^{23}Q^{17} + \\
& 14P^7R^{22}Q^{17} + 2R^{25}Q^{16} + 15P^3R^{24}Q^{16} + 3P^6R^{23}Q^{16} + P^2R^{25}Q^{15} + 22P^5R^{24}Q^{15} + 18PR^{26}Q^{14} + \\
& 7P^4R^{25}Q^{14} + 22P^7R^{24}Q^{14} + 4R^{27}Q^{13} + 8P^3R^{26}Q^{13} + 17P^6R^{25}Q^{13} + P^2R^{27}Q^{12} + 18P^5R^{26}Q^{12} + \\
& PR^{28}Q^{11} + 10P^4R^{27}Q^{11} + 13P^7R^{26}Q^{11} + 21R^{29}Q^{10} + 21P^3R^{28}Q^{10} + 4P^6R^{27}Q^{10} + 22P^2R^{29}Q^9 + \\
& 22P^5R^{28}Q^9 + 14PR^{30}Q^8 + 19P^4R^{29}Q^8 + P^7R^{28}Q^8 + 4R^{31}Q^7 + 6P^3R^{30}Q^7 + 10P^6R^{29}Q^7 + \\
& 5P^2R^{31}Q^6 + 9P^5R^{30}Q^6 + 21PR^{32}Q^5 + 19P^4R^{31}Q^5 + 17P^7R^{30}Q^5 + 19R^{33}Q^4 + 10P^3R^{32}Q^4 + \\
& 5P^6R^{31}Q^4 + 18P^2R^{33}Q^3 + 8P^5R^{32}Q^3 + 8PR^{34}Q^2 + 9P^4R^{33}Q^2 + 7P^7R^{32}Q^2 + 17R^{35}Q + \\
& 20P^3R^{34}Q + 10P^6R^{33}Q + 16P^2R^{35} + 20P^5R^{34})
\end{aligned}$$

$$\begin{aligned}
& = (Q^3 - R^2)^{18} - 23(3Q^{54} - 126P^2Q^{53} - 30P^4Q^{52} + 50PRQ^{52} - 172P^6Q^{51} + 95R^2Q^{51} - \\
& 64P^3RQ^{51} - 180P^8Q^{50} + 54P^2R^2Q^{50} + 102P^5RQ^{50} - 94PR^3Q^{49} - 67P^4R^2Q^{49} + 52P^7RQ^{49} + \\
& 184R^4Q^{48} + 48P^3R^3Q^{48} + 73P^6R^2Q^{48} + 21P^2R^4Q^{47} - 42P^5R^3Q^{47} - 81P^8R^2Q^{47} - 58PR^5Q^{46} - \\
& 73P^4R^4Q^{46} + 28P^7R^3Q^{46} + 120R^6Q^{45} + 108P^3R^5Q^{45} - 66P^6R^4Q^{45} - 9P^2R^6Q^{44} + 60P^5R^5Q^{44} - \\
& 153P^8R^4Q^{44} + 52PR^7Q^{43} - 100P^4R^6Q^{43} + 84P^7R^5Q^{43} + 197R^8Q^{42} + 32P^3R^7Q^{42} + 54P^6R^6Q^{42} + \\
& 66P^2R^8Q^{41} - 54P^5R^7Q^{41} - 99P^8R^6Q^{41} + 2PR^9Q^{40} - 73P^4R^8Q^{40} - 44P^7R^7Q^{40} - 282R^{10}Q^{39} + \\
& 88P^3R^9Q^{39} + 40P^6R^8Q^{39} - 12P^2R^{10}Q^{38} + 78P^5R^9Q^{38} - 18P^8R^8Q^{38} - 16PR^{11}Q^{37} + \\
& 16P^4R^{10}Q^{37} - 56P^7R^9Q^{37} + 939R^{12}Q^{36} - 80P^3R^{11}Q^{36} + 48P^6R^{10}Q^{36} + 45P^2R^{12}Q^{35} - \\
& 144P^5R^{11}Q^{35} - 198P^8R^{10}Q^{35} - 24PR^{13}Q^{34} + 72P^4R^{12}Q^{34} + 144P^7R^{11}Q^{34} - 1253R^{14}Q^{33} - \\
& 4P^3R^{13}Q^{33} - 23P^6R^{12}Q^{33} - 51P^2R^{14}Q^{32} + 12P^5R^{13}Q^{32} - 81P^8R^{12}Q^{32} + 78PR^{15}Q^{31} + \\
& P^4R^{14}Q^{31} + 56P^7R^{13}Q^{31} + 2027R^{16}Q^{30} - 96P^3R^{15}Q^{30} + 73P^6R^{14}Q^{30} + 30P^2R^{16}Q^{29} - \\
& 66P^5R^{15}Q^{29} - 126P^8R^{14}Q^{29} - 26PR^{17}Q^{28} + 3P^4R^{16}Q^{28} + 24P^7R^{15}Q^{28} - 1976R^{18}Q^{27} - \\
& 12P^3R^{17}Q^{27} + 41P^6R^{16}Q^{27} - 3P^2R^{18}Q^{26} - 108P^5R^{17}Q^{26} - 153P^8R^{16}Q^{26} - 22PR^{19}Q^{25} + \\
& 125P^4R^{18}Q^{25} + 148P^7R^{17}Q^{25} + 2071R^{20}Q^{24} - 116P^3R^{19}Q^{24} - 7P^6R^{18}Q^{24} + 138P^2R^{20}Q^{23} - \\
& 66P^5R^{19}Q^{23} - 171P^8R^{18}Q^{23} - 128PR^{21}Q^{22} + 61P^4R^{20}Q^{22} + 148P^7R^{19}Q^{22} - 1215R^{22}Q^{21} - \\
& 148P^3R^{21}Q^{21} - 37P^6R^{20}Q^{21} + 6P^2R^{22}Q^{20} + 96P^5R^{21}Q^{20} - 171P^8R^{20}Q^{20} - 10PR^{23}Q^{19} + \\
& 122P^4R^{22}Q^{19} + 56P^7R^{21}Q^{19} + 867R^{24}Q^{18} + 36P^3R^{23}Q^{18} - 81P^6R^{22}Q^{18} - 90P^2R^{24}Q^{17} + \\
& 12P^5R^{23}Q^{17} - 126P^8R^{22}Q^{17} + 142PR^{25}Q^{16} - 31P^4R^{24}Q^{16} + 152P^7R^{23}Q^{16} - 338R^{26}Q^{15} + \\
& 88P^3R^{25}Q^{15} - 74P^6R^{24}Q^{15} - 156P^2R^{26}Q^{14} + 120P^5R^{25}Q^{14} - 198P^8R^{24}Q^{14} + 14PR^{27}Q^{13} + \\
& 18P^4R^{26}Q^{13} - 12P^7R^{25}Q^{13} + 301R^{28}Q^{12} + 164P^3R^{27}Q^{12} - 93P^6R^{26}Q^{12} + 162P^2R^{28}Q^{11} + \\
& 108P^5R^{27}Q^{11} - 117P^8R^{26}Q^{11} - 82PR^{29}Q^{10} - 25P^4R^{28}Q^{10} - 4P^7R^{27}Q^{10} + 34R^{30}Q^9 - \\
& 116P^3R^{29}Q^9 - 117P^6R^{28}Q^9 - 54P^2R^{30}Q^8 - 66P^5R^{29}Q^8 - 9P^8R^{28}Q^8 + 158PR^{31}Q^7 + \\
& 127P^4R^{30}Q^7 + 44P^7R^{29}Q^7 + 176R^{32}Q^6 + 48P^3R^{31}Q^6 - 24P^6R^{30}Q^6 - 33P^2R^{32}Q^5 - 96P^5R^{31}Q^5 - \\
& 153P^8R^{30}Q^5 - 86PR^{33}Q^4 + 4P^4R^{32}Q^4 + 28P^7R^{31}Q^4 + 168R^{34}Q^3 + 20P^3R^{33}Q^3 + 19P^6R^{32}Q^3 + \\
& 84P^2R^{34}Q^2 + 102P^5R^{33}Q^2 - 63P^8R^{32}Q^2 - 154PR^{35}Q - 176P^4R^{34}Q - 88P^7R^{33}Q + 3R^{36} - \\
& 144P^3R^{35} - 180P^6R^{34})
\end{aligned}$$

$$\begin{aligned}
& 12^8 \vartheta^8 (Q^{50} + 20R^2Q^{47} + 2R^4Q^{44} + 4R^6Q^{41} + 7R^8Q^{38} + 8R^{10}Q^{35} + 20R^{12}Q^{32} + 3R^{14}Q^{29} + \\
& 2R^{16}Q^{26} + 9R^{18}Q^{23} + 9R^{20}Q^{20} + 3R^{22}Q^{17} + 8R^{24}Q^{14} + 11R^{26}Q^{11} + 15R^{28}Q^8 + 2R^{30}Q^5 + \\
& 13R^{32}Q^2) \equiv (Q^3 - R^2)^{18} \pmod{23}
\end{aligned}$$

$$p_3(23t + 20) \equiv 0 \pmod{23} \text{ via } Q^{23}(Q^3 - R^2)^3$$

$$\begin{aligned}
& 12\vartheta(7P^3Q^{30} + 19RQ^{30} + 8P^2RQ^{29} + 12P^7Q^{28} + 18PR^2Q^{28} + 17P^4RQ^{28} + 10P^9Q^{27} + \\
& 22R^3Q^{27} + 7P^3R^2Q^{27} + 9P^6RQ^{27} + 10P^{11}Q^{26} + 2P^2R^3Q^{26} + 15P^5R^2Q^{26} + 16P^8RQ^{26} + \\
& 16PR^4Q^{25} + 12P^4R^3Q^{25} + 21P^7R^2Q^{25} + 8P^{10}RQ^{25} + 16R^5Q^{24} + 19P^3R^4Q^{24} + 8P^6R^3Q^{24} + \\
& 7P^9R^2Q^{24} + 8P^2R^5Q^{23} + 17P^5R^4Q^{23} + 2P^8R^3Q^{23} + 6P^{11}R^2Q^{23} + 6PR^6Q^{22} + 9P^4R^5Q^{22} + \\
& 17P^7R^4Q^{22} + 14P^{10}R^3Q^{22} + 4P^3R^6Q^{21} + 16P^6R^5Q^{21} + 22P^9R^4Q^{21} + 11P^2R^7Q^{20} + P^5R^6Q^{20} + \\
& 11P^8R^5Q^{20} + 14P^{11}R^4Q^{20} + PR^8Q^{19} + 13P^4R^7Q^{19} + 17P^7R^6Q^{19} + 12P^{10}R^5Q^{19} + 20R^9Q^{18} + \\
& 5P^3R^8Q^{18} + 2P^6R^7Q^{18} + 21P^9R^6Q^{18} + 13P^2R^9Q^{17} + 11P^5R^8Q^{17} + 3P^8R^7Q^{17} + 5P^{11}R^6Q^{17} + \\
& 15PR^{10}Q^{16} + 4P^4R^9Q^{16} + 14P^7R^8Q^{16} + 7P^{10}R^7Q^{16} + 2R^{11}Q^{15} + 16P^3R^{10}Q^{15} + P^6R^9Q^{15} + \\
& 7P^9R^8Q^{15} + 4P^5R^{10}Q^{14} + 11P^8R^9Q^{14} + 6P^{11}R^8Q^{14} + 17PR^{12}Q^{13} + 11P^4R^{11}Q^{13} + 4P^7R^{10}Q^{13} + \\
& 18P^{10}R^9Q^{13} + 18R^{13}Q^{12} + 18P^3R^{12}Q^{12} + 6P^6R^{11}Q^{12} + 17P^9R^{10}Q^{12} + 18P^2R^{13}Q^{11} + \\
& 8P^5R^{12}Q^{11} + 21P^8R^{11}Q^{11} + 20P^{11}R^{10}Q^{11} + 4PR^{14}Q^{10} + 17P^4R^{13}Q^{10} + 15P^7R^{12}Q^{10} + \\
& 6P^{10}R^{11}Q^{10} + 20R^{15}Q^9 + 10P^3R^{14}Q^9 + 5P^9R^{12}Q^9 + 9P^5R^{14}Q^8 + 14P^8R^{13}Q^8 + 15PR^{16}Q^7 + \\
& 12P^4R^{15}Q^7 + 20P^7R^{14}Q^7 + 7R^{17}Q^6 + 13P^3R^{16}Q^6 + 20P^6R^{15}Q^6 + 18P^2R^{17}Q^5 + 11P^5R^{16}Q^5 + \\
& 18PR^{18}Q^4 + 15P^4R^{17}Q^4 + 2R^{19}Q^3 + 7P^3R^{18}Q^3 + 17P^2R^{19}Q^2 + 9PR^{20}Q + 20R^{21}) \\
& = Q^{23}(Q^3 - R^2)^3 + 23(-5Q^{32} - 3P^2Q^{31} + 33P^4Q^{30} + 94PRQ^{30} - 6P^6Q^{29} - 117R^2Q^{29} + \\
& 54P^8Q^{28} + 55P^2R^2Q^{28} + 80P^5RQ^{28} + 44P^{10}Q^{27} + 16PR^3Q^{27} - 58P^4R^2Q^{27} - 28P^7RQ^{27} + \\
& 50P^{12}Q^{26} - 125R^4Q^{26} - 44P^3R^3Q^{26} + 24P^6R^2Q^{26} + 28P^9RQ^{26} + 65P^2R^4Q^{25} - 24P^5R^3Q^{25} + \\
& 32P^8R^2Q^{25} - 8P^{11}RQ^{25} + 8PR^5Q^{24} + 34P^4R^4Q^{24} - 68P^7R^3Q^{24} - 13P^{10}R^2Q^{24} - 67R^6Q^{23} - \\
& 44P^3R^5Q^{23} + 30P^6R^4Q^{23} - 48P^9R^3Q^{23} + 30P^{12}R^2Q^{23} - 20P^2R^6Q^{22} - 26P^5R^5Q^{22} + \\
& 57P^8R^4Q^{22} + 32P^{11}R^3Q^{22} - 26PR^7Q^{21} - 37P^4R^6Q^{21} - 12P^7R^5Q^{21} + 36P^{10}R^4Q^{21} - 47R^8Q^{20} + \\
& 32P^3R^7Q^{20} - 62P^6R^6Q^{20} - 62P^9R^5Q^{20} + 70P^{12}R^4Q^{20} - 64P^2R^8Q^{19} + 42P^5R^7Q^{19} + \\
& 36P^8R^6Q^{19} + 4P^{11}R^5Q^{19} + 66PR^9Q^{18} - 28P^4R^8Q^{18} - 76P^7R^7Q^{18} + 52P^{10}R^6Q^{18} - 69R^{10}Q^{17} + \\
& 12P^3R^9Q^{17} + 45P^6R^8Q^{17} - 68P^9R^7Q^{17} + 25P^{12}R^6Q^{17} + 41P^2R^{10}Q^{16} - 22P^5R^9Q^{16} + \\
& 35P^8R^8Q^{16} + 8P^{11}R^7Q^{16} - 84PR^{11}Q^{15} + 42P^4R^{10}Q^{15} - 48P^7R^9Q^{15} - 29P^{10}R^8Q^{15} - 67R^{12}Q^{14} - \\
& 100P^3R^{11}Q^{14} - 14P^9R^9Q^{14} + 30P^{12}R^8Q^{14} + 29P^2R^{12}Q^{13} + 22P^5R^{11}Q^{13} - 73P^8R^{10}Q^{13} + \\
& 24P^{11}R^9Q^{13} + 44PR^{13}Q^{12} + 12P^4R^{12}Q^{12} - 32P^7R^{11}Q^{12} + 19P^{10}R^{10}Q^{12} - 116R^{14}Q^{11} + \\
& 20P^3R^{13}Q^{11} + 25P^6R^{12}Q^{11} + 54P^9R^{11}Q^{11} + 100P^{12}R^{10}Q^{11} - 14P^2R^{14}Q^{10} + 42P^5R^{13}Q^{10} - \\
& 12P^8R^{12}Q^{10} - 8P^{11}R^{11}Q^{10} + 40PR^{15}Q^9 - 25P^4R^{14}Q^9 - 104P^7R^{13}Q^9 + 15P^{10}R^{12}Q^9 - 63R^{16}Q^8 - \\
& 72P^3R^{15}Q^8 - 37P^6R^{14}Q^8 + 64P^9R^{13}Q^8 + 84P^8R^{14}Q^7 - 66PR^{17}Q^6 - 14P^4R^{16}Q^6 + 80P^7R^{15}Q^6 - \\
& 18R^{18}Q^5 + 48P^3R^{17}Q^5 + 37P^6R^{16}Q^5 - 3P^2R^{18}Q^4 + 70P^5R^{17}Q^4 - 50PR^{19}Q^3 + 27P^4R^{18}Q^3 - \\
& 111R^{20}Q^2 + 88P^3R^{19}Q^2 + 43P^2R^{20}Q + 108PR^{21})
\end{aligned}$$

$$12^{12}\vartheta^{12}(13Q^{26} + 17R^2Q^{23} + 9R^4Q^{20} + 18R^6Q^{17} + 17R^8Q^{14} + 3R^{10}Q^{11}) \equiv Q^{23}(Q^3 - R^2)^3 \pmod{23}$$

$$p_{14}(29t + 26) \equiv 0 \pmod{29}$$

$$\begin{aligned}
& 12\vartheta(7PQ^8 + 2P^3Q^7 + 18RQ^7 + 22P^5Q^6 + 23P^2RQ^6 + 14PR^2Q^5 + 21P^4RQ^5 + 2R^3Q^4 + \\
& 11P^3R^2Q^4 + 27P^2R^3Q^3 + 23P^5R^2Q^3 + PR^4Q^2 + 15P^4R^3Q^2 + 22R^5Q + 2P^3R^4Q + 22P^2R^5) \\
& = (Q^3 - R^2)^3 - 29(4Q^9 - 3P^2Q^8 + 6P^4Q^7 - 6PRQ^7 - 22P^6Q^6 + 19R^2Q^6 - 16P^3RQ^6 + \\
& 21P^2R^2Q^5 + 6P^5RQ^5 + 10PR^3Q^4 + 16P^4R^2Q^4 + 24R^4Q^3 - 20P^3R^3Q^3 - 23P^6R^2Q^3 + \\
& 33P^2R^4Q^2 - 6P^5R^3Q^2 - 24PR^5Q + 2P^4R^4Q + 3R^6 - 24P^3R^5)
\end{aligned}$$

$$12^6\vartheta^6(9Q^6 + 16R^2Q^3) \equiv (Q^3 - R^2)^3 \pmod{29}$$

$$p_4(29t + 24) \equiv 0 \pmod{29}$$

$$\begin{aligned}
& 12\vartheta(24RQ^{13} + 26R^3Q^{10} + 23R^5Q^7 + 7R^7Q^4 + 22R^9Q) \\
&= (Q^3 - R^2)^5 - 29(5Q^{15} - 48PRQ^{13} + 59R^2Q^{12} - 52PR^3Q^{10} + 60R^4Q^9 - 46PR^5Q^7 + \\
&32R^6Q^6 - 14PR^7Q^4 + 45R^8Q^3 - 44PR^9Q + 3R^{10})
\end{aligned}$$

$$p_8(29t + 19) \equiv 0 \pmod{29}$$

$$\begin{aligned}
& 12\vartheta(11PQ^{29} + 27RQ^{28} + 26P^2RQ^{27} + 5PR^2Q^{26} + 24R^3Q^{25} + 7P^2R^3Q^{24} + 16PR^4Q^{23} + 4R^5Q^{22} + \\
&11P^2R^5Q^{21} + 28PR^6Q^{20} + 9R^7Q^{19} + 27P^2R^7Q^{18} + 13PR^8Q^{17} + 2R^9Q^{16} + 26P^2R^9Q^{15} + \\
&27PR^{10}Q^{14} + 23R^{11}Q^{13} + 15P^2R^{11}Q^{12} + 5PR^{12}Q^{11} + 15R^{13}Q^{10} + 15P^2R^{13}Q^9 + 25PR^{14}Q^8 + \\
&25R^{15}Q^7 + 12P^2R^{15}Q^6 + PR^{16}Q^5 + 16R^{17}Q^4 + 6P^2R^{17}Q^3 + 7R^{19}Q + 7P^2R^{19}) \\
&= (Q^3 - R^2)^{10} - 29(6Q^{30} - 39P^2Q^{29} - 62PRQ^{28} + 119R^2Q^{27} - 104P^3RQ^{27} + 81P^2R^2Q^{26} - \\
&66PR^3Q^{25} + 89R^4Q^{24} - 28P^3R^3Q^{24} - 30P^2R^4Q^{23} + 70PR^5Q^{22} + 22R^6Q^{21} - 44P^3R^5Q^{21} - \\
&42P^2R^6Q^{20} + 64PR^7Q^{19} + 35R^8Q^{18} - 108P^3R^7Q^{18} + 63P^2R^8Q^{17} + 80PR^9Q^{16} + 49R^{10}Q^{15} - \\
&104P^3R^9Q^{15} - 21P^2R^{10}Q^{14} - 28PR^{11}Q^{13} + 89R^{12}Q^{12} - 60P^3R^{11}Q^{12} + 45P^2R^{12}Q^{11} + \\
&20PR^{13}Q^{10} + 95R^{14}Q^9 - 60P^3R^{13}Q^9 - 45P^2R^{14}Q^8 - 70PR^{15}Q^7 + 82R^{16}Q^6 - 48P^3R^{15}Q^6 + \\
&27P^2R^{16}Q^5 - 64PR^{17}Q^4 + 36R^{18}Q^3 - 24P^3R^{17}Q^3 + 30P^2R^{18}Q^2 - 28PR^{19}Q + R^{20} - 28P^3R^{19}) \\
&12^3\vartheta^3(13RQ^{27} + 18R^3Q^{24} + 20R^5Q^{21} + 28R^7Q^{18} + 13R^9Q^{15} + 22R^{11}Q^{12} + 22R^{13}Q^9 + 6R^{15}Q^6 + \\
&3R^{17}Q^3 + 18R^{19}) \equiv (Q^3 - R^2)^{10} \pmod{29}
\end{aligned}$$

$$p_{10}(31t + 28) \equiv 0 \pmod{31}$$

$$\begin{aligned}
& 12\vartheta(21PQ^8 + 7P^3Q^7 + 17RQ^7 + 19P^2RQ^6 + 20PR^2Q^5 + 26R^3Q^4 + 24P^3R^2Q^4 + 28P^2R^3Q^3 + \\
&23PR^4Q^2 + 8R^5Q + 11P^3R^4Q + 13P^2R^5) \\
&= (Q^3 - R^2)^3 - 31(4Q^9 - 18P^2Q^8 - 7P^4Q^7 + 12PRQ^7 + 31R^2Q^6 - 4P^3RQ^6 + 12P^2R^2Q^5 + \\
&4PR^3Q^4 - 24P^4R^2Q^4 + 22R^4Q^3 - 8P^3R^3Q^3 - 2PR^5Q - 11P^4R^4Q + R^6 - 12P^3R^5) \\
&12^4\vartheta^4(4Q^7 + 27R^2Q^4 + 24R^4Q) \equiv (Q^3 - R^2)^3 \pmod{31}
\end{aligned}$$

$$p_6(31t + 23) \equiv 0 \pmod{31}$$

$$\begin{aligned}
& 12\vartheta(8PQ^{23} + 14RQ^{22} + 7PR^2Q^{20} + 16R^3Q^{19} + 29PR^4Q^{17} + 2R^5Q^{16} + 9PR^6Q^{14} + 18R^7Q^{13} + \\
&17PR^8Q^{11} + 2PR^{10}Q^8 + 29R^{11}Q^7 + 12PR^{12}Q^5 + R^{13}Q^4 + 30PR^{14}Q^2 + 23R^{15}Q) \\
&= (Q^3 - R^2)^8 - 31(3Q^{24} - 24P^2Q^{23} - 16PRQ^{22} + 49R^2Q^{21} - 21P^2R^2Q^{20} - 8PR^3Q^{19} + \\
&43R^4Q^{18} - 87P^2R^4Q^{17} + 68PR^5Q^{16} + 27R^6Q^{15} - 27P^2R^6Q^{14} - 12PR^7Q^{13} + 33R^8Q^{12} - \\
&51P^2R^8Q^{11} + 28PR^9Q^{10} + 60R^{10}Q^9 - 6P^2R^{10}Q^8 - 58PR^{11}Q^7 + 30R^{12}Q^6 - 36P^2R^{12}Q^5 + \\
&86PR^{13}Q^4 + 68R^{14}Q^3 - 90P^2R^{14}Q^2 - 62PR^{15}Q + 3R^{16}) \\
&12^2\vartheta^2(23Q^{23} + 24R^2Q^{20} + 2R^4Q^{17} + 22R^6Q^{14} + 14R^8Q^{11} + 29R^{10}Q^8 + 19R^{12}Q^5 + \\
&R^{14}Q^2) \equiv (Q^3 - R^2)^8 \pmod{31}
\end{aligned}$$

$$p_{14}(41t + 37) \equiv 0 \pmod{41}$$

$$\begin{aligned}
& 12\vartheta(18PQ^{11} + 10P^3Q^{10} + 31RQ^{10} + 40P^5Q^9 + 7P^2RQ^9 + 38PR^2Q^8 + 11P^4RQ^8 + 34R^3Q^7 + \\
&16P^3R^2Q^7 + 10P^2R^3Q^6 + 21P^5R^2Q^6 + 6P^4R^3Q^5 + 20R^5Q^4 + 26P^3R^4Q^4 + 14P^2R^5Q^3 + \\
&10P^5R^4Q^3 + 2PR^6Q^2 + 7P^4R^5Q^2 + 10R^7Q + 23P^3R^6Q + 17P^2R^7 + 39P^5R^6) \\
&= (Q^3 - R^2)^4 - 41(5Q^{12} - 18P^2Q^{11} - 4P^4Q^{10} - 4PRQ^{10} - 40P^6Q^9 + 46R^2Q^9 + 8P^3RQ^9 - \\
&30P^2R^2Q^8 + 30P^5RQ^8 - 8PR^3Q^7 - 3P^4R^2Q^7 + 38R^4Q^6 + 16P^3R^3Q^6 - 21P^6R^2Q^6 + 18P^2R^4Q^5 + \\
&12P^5R^3Q^5 - 20PR^5Q^4 - 18P^4R^4Q^4 + 18R^6Q^3 + 16P^3R^5Q^3 - 10P^6R^4Q^3 + 21P^2R^6Q^2 +
\end{aligned}$$

$$30P^5R^5Q^2 - 10PR^7Q - 18P^4R^6Q + R^8 - 16P^3R^7 - 39P^6R^6)$$

$$12^6\vartheta^6(27Q^9 + 7R^2Q^6 + 17R^4Q^3 + 13R^6) \equiv (Q^3 - R^2)^4 \pmod{41}$$

$$p_4(41t + 34) \equiv 0 \pmod{41}$$

$$\begin{aligned} & 12\vartheta(34RQ^{19} + 14R^3Q^{16} + 20R^5Q^{13} + 20R^7Q^{10} + 2R^9Q^7 + 15R^{11}Q^4 + 31R^{13}Q) \\ &= (Q^3 - R^2)^7 - 41(5Q^{21} - 68PRQ^{19} + 69R^2Q^{18} - 28PR^3Q^{16} + 37R^4Q^{15} - 40PR^5Q^{13} + \\ & 45R^6Q^{12} - 40PR^7Q^{10} + 23R^8Q^9 - 4PR^9Q^7 + 25R^{10}Q^6 - 30PR^{11}Q^4 + 65R^{12}Q^3 - 62PR^{13}Q + \\ & 3R^{14}) \end{aligned}$$

$$p_8(41t + 27) \equiv 0 \pmod{41}$$

$$\begin{aligned} & 12\vartheta(9PQ^{41} + 12RQ^{40} + 22P^2RQ^{39} + 12PR^2Q^{38} + 21R^3Q^{37} + 15P^2R^3Q^{36} + 27PR^4Q^{35} + \\ & 10R^5Q^{34} + 15P^2R^5Q^{33} + 20PR^6Q^{32} + 9R^7Q^{31} + 8P^2R^7Q^{30} + 27PR^8Q^{29} + 18R^9Q^{28} + \\ & 26P^2R^9Q^{27} + 35PR^{10}Q^{26} + 21R^{11}Q^{25} + 17P^2R^{11}Q^{24} + 27PR^{12}Q^{23} + 32R^{13}Q^{22} + 22P^2R^{13}Q^{21} + \\ & 39PR^{14}Q^{20} + 26R^{15}Q^{19} + 25P^2R^{15}Q^{18} + 35PR^{16}Q^{17} + 24R^{17}Q^{16} + 4P^2R^{17}Q^{15} + 33PR^{18}Q^{14} + \\ & 2R^{19}Q^{13} + 23P^2R^{19}Q^{12} + 15PR^{20}Q^{11} + 23R^{21}Q^{10} + 6P^2R^{21}Q^9 + 17PR^{22}Q^8 + 11R^{23}Q^7 + \\ & 25P^2R^{23}Q^6 + 4PR^{24}Q^5 + 20R^{25}Q^4 + 25P^2R^{25}Q^3 + PR^{26}Q^2 + 10R^{27}Q + 6P^2R^{27}) \\ &= (Q^3 - R^2)^{14} - 41(2Q^{42} - 33P^2Q^{41} - 8PRQ^{40} + 56R^2Q^{39} - 88P^3RQ^{39} + 42P^2R^2Q^{38} - \\ & 24PR^3Q^{37} + 86R^4Q^{36} - 60P^3R^3Q^{36} - 45P^2R^4Q^{35} + 70PR^5Q^{34} + 34R^6Q^{33} - 60P^3R^5Q^{33} - \\ & 24P^2R^6Q^{32} + 58PR^7Q^{31} + 76R^8Q^{30} - 32P^3R^7Q^{30} - 51P^2R^8Q^{29} + 56PR^9Q^{28} + 35R^{10}Q^{27} - \\ & 104P^3R^9Q^{27} - 45P^2R^{10}Q^{26} + 52PR^{11}Q^{25} + 186R^{12}Q^{24} - 68P^3R^{11}Q^{24} - 27P^2R^{12}Q^{23} + \\ & 12PR^{13}Q^{22} + 43R^{14}Q^{21} - 88P^3R^{13}Q^{21} - 57P^2R^{14}Q^{20} + 54PR^{15}Q^{19} + 182R^{16}Q^{18} - \\ & 100P^3R^{15}Q^{18} - 87P^2R^{16}Q^{17} + 48PR^{17}Q^{16} - 5R^{18}Q^{15} - 16P^3R^{17}Q^{15} - 63P^2R^{18}Q^{14} + \\ & 82PR^{19}Q^{13} + 98R^{20}Q^{12} - 92P^3R^{19}Q^{12} - 15P^2R^{20}Q^{11} - 22PR^{21}Q^{10} + 51R^{22}Q^9 - 24P^3R^{21}Q^9 + \\ & 21P^2R^{22}Q^8 - 16PR^{23}Q^7 + 83R^{24}Q^6 - 100P^3R^{23}Q^6 + 90P^2R^{24}Q^5 - 74PR^{25}Q^4 + 47R^{26}Q^3 - \\ & 100P^3R^{25}Q^3 + 27P^2R^{26}Q^2 - 40PR^{27}Q + R^{28} - 24P^3R^{27}) \end{aligned}$$

$$12^3\vartheta^3(11RQ^{39} + 28R^3Q^{36} + 28R^5Q^{33} + 4R^7Q^{30} + 13R^9Q^{27} + 29R^{11}Q^{24} + 11R^{13}Q^{21} + 33R^{15}Q^{18} + 2R^{17}Q^{15} + 32R^{19}Q^{12} + 3R^{21}Q^9 + 33R^{23}Q^6 + 33R^{25}Q^3 + 3R^{27}) \equiv (Q^3 - R^2)^{14} \pmod{41}$$

$$p_{10}(43t + 39) \equiv 0 \pmod{43}$$

$$\begin{aligned} & 12\vartheta(14PQ^{11} + 42P^3Q^{10} + 19RQ^{10} + 41P^2RQ^9 + 29PR^2Q^8 + 40R^3Q^7 + 39P^3R^2Q^7 + 27P^2R^3Q^6 + \\ & 25PR^4Q^5 + 29R^5Q^4 + 4P^3R^4Q^4 + 37P^2R^5Q^3 + 2PR^6Q^2 + 32R^7Q + 10P^3R^6Q + 40P^2R^7) \\ &= (Q^3 - R^2)^4 - 43(3Q^{12} - 6P^2Q^{11} - 42P^4Q^{10} + 4PRQ^{10} + 35R^2Q^9 + 8P^3RQ^9 + 18P^2R^2Q^8 - \\ & 6PR^3Q^7 - 39P^4R^2Q^7 + 47R^4Q^6 + 15P^2R^4Q^5 - 16PR^5Q^4 - 4P^4R^4Q^4 + 42R^6Q^3 - 28P^3R^5Q^3 + \\ & 48P^2R^6Q^2 - 32PR^7Q - 10P^4R^6Q + 3R^8 - 40P^3R^7) \end{aligned}$$

$$12^4\vartheta^4(36Q^{10} + 15R^2Q^7 + 28R^4Q^4 + 27R^6Q) \equiv (Q^3 - R^2)^4 \pmod{43}$$

$$p_6(43t + 32) \equiv 0 \pmod{43}$$

$$\begin{aligned} & 12\vartheta(30PQ^{32} + 2RQ^{31} + 17PR^2Q^{29} + 5R^3Q^{28} + 13PR^4Q^{26} + 2R^5Q^{25} + 27PR^6Q^{23} + 19R^7Q^{22} + \\ & 23PR^8Q^{20} + 27R^9Q^{19} + 35PR^{10}Q^{17} + 6R^{11}Q^{16} + 16PR^{12}Q^{14} + 11R^{13}Q^{13} + 34PR^{14}Q^{11} + \\ & 17R^{15}Q^{10} + 37PR^{16}Q^8 + 4R^{17}Q^7 + 5PR^{18}Q^5 + 7R^{19}Q^4 + 39PR^{20}Q^2 + 11R^{21}Q) \\ &= (Q^3 - R^2)^{11} - 43(Q^{33} - 90P^2Q^{32} + 88PRQ^{31} + 8R^2Q^{30} - 51P^2R^2Q^{29} + 38PR^3Q^{28} + 16R^4Q^{27} - \\ & 39P^2R^4Q^{26} + 48PR^5Q^{25} + 20R^6Q^{24} - 81P^2R^6Q^{23} + 26PR^7Q^{22} + 81R^8Q^{21} - 69P^2R^8Q^{20} + \\ & 10PR^9Q^{19} + 47R^{10}Q^{18} - 105P^2R^{10}Q^{17} + 64PR^{11}Q^{16} + 40R^{12}Q^{15} - 48P^2R^{12}Q^{14} + 54PR^{13}Q^{13} + \end{aligned}$$

$$42R^{14}Q^{12} - 102P^2R^{14}Q^{11} + 66PR^{15}Q^{10} + 30R^{16}Q^9 - 111P^2R^{16}Q^8 + 28PR^{17}Q^7 + 20R^{18}Q^6 - 15P^2R^{18}Q^5 + 90PR^{19}Q^4 + 36R^{20}Q^3 - 117P^2R^{20}Q^2 - 26PR^{21}Q + R^{22})$$

$$12^2\vartheta^2(13Q^{32} + 26R^2Q^{29} + 30R^4Q^{26} + 16R^6Q^{23} + 20R^8Q^{20} + 8R^{10}Q^{17} + 27R^{12}Q^{14} + 9R^{14}Q^{11} + 6R^{16}Q^8 + 38R^{18}Q^5 + 4R^{20}Q^2) \equiv (Q^3 - R^2)^{11} \pmod{43}$$

$$p_4(47t + 39) \equiv 0 \pmod{47}$$

$$12\vartheta(39RQ^{22} + 3R^3Q^{19} + 4R^5Q^{16} + 40R^7Q^{13} + 42R^9Q^{10} + 11R^{11}Q^7 + 21R^{13}Q^4 + 35R^{15}Q) \\ = (Q^3 - R^2)^8 - 47(5Q^{24} - 78PRQ^{22} + 74R^2Q^{21} - 6PR^3Q^{19} + 8R^4Q^{18} - 8PR^5Q^{16} + 40R^6Q^{15} - 80PR^7Q^{13} + 94R^8Q^{12} - 84PR^9Q^{10} + 50R^{10}Q^9 - 22PR^{11}Q^7 + 42R^{12}Q^6 - 42PR^{13}Q^4 + 74R^{14}Q^3 - 70PR^{15}Q + 3R^{16})$$

$$p_6(47t + 35) \equiv 0 \pmod{47}$$

$$12\vartheta(29PQ^{35} + 42RQ^{34} + 2PR^2Q^{32} + 7R^3Q^{31} + 19PR^4Q^{29} + 45R^5Q^{28} + 4PR^6Q^{26} + 6R^7Q^{25} + 13PR^8Q^{23} + 23R^9Q^{22} + 11PR^{10}Q^{20} + 36R^{11}Q^{19} + 17PR^{12}Q^{17} + 33R^{13}Q^{16} + 23PR^{14}Q^{14} + 42R^{15}Q^{13} + 35PR^{16}Q^{11} + 25R^{17}Q^{10} + 16PR^{18}Q^8 + 26R^{19}Q^7 + 3PR^{20}Q^5 + 3R^{21}Q^4 + 22PR^{22}Q^2 + 35R^{23}Q) \\ = (Q^3 - R^2)^{12} - 47(6Q^{36} - 87P^2Q^{35} - 40PRQ^{34} + 124R^2Q^{33} - 6P^2R^2Q^{32} - 6PR^3Q^{31} + 49R^4Q^{30} - 57P^2R^4Q^{29} - 86PR^5Q^{28} + 108R^6Q^{27} - 12P^2R^6Q^{26} + 4PR^7Q^{25} + 50R^8Q^{24} - 39P^2R^8Q^{23} - 30PR^9Q^{22} + 77R^{10}Q^{21} - 33P^2R^{10}Q^{20} - 64PR^{11}Q^{19} + 133R^{12}Q^{18} - 51P^2R^{12}Q^{17} - 34PR^{13}Q^{16} + 109R^{14}Q^{15} - 69P^2R^{14}Q^{14} - 28PR^{15}Q^{13} + 112R^{16}Q^{12} - 105P^2R^{16}Q^{11} - 6PR^{17}Q^{10} + 80R^{18}Q^9 - 48P^2R^{18}Q^8 - 60PR^{19}Q^7 + 25R^{20}Q^6 - 9P^2R^{20}Q^5 + 54PR^{21}Q^4 + 104R^{22}Q^3 - 66P^2R^{22}Q^2 - 102PR^{23}Q + 3R^{24})$$

$$12^2\vartheta^2(18Q^{35} + 45R^2Q^{32} + 28R^4Q^{29} + 43R^6Q^{26} + 34R^8Q^{23} + 36R^{10}Q^{20} + 30R^{12}Q^{17} + 24R^{14}Q^{14} + 12R^{16}Q^{11} + 31R^{18}Q^8 + 44R^{20}Q^5 + 25R^{22}Q^2) \equiv (Q^3 - R^2)^{12} \pmod{47}$$

$$p_8(47t + 31) \equiv 0 \pmod{47}$$

$$12\vartheta(PQ^{47} + 31RQ^{46} + 8P^2RQ^{45} + 43PR^2Q^{44} + 8R^3Q^{43} + 19P^2R^3Q^{42} + PR^4Q^{41} + 30R^5Q^{40} + 8P^2R^5Q^{39} + 28PR^6Q^{38} + 17R^7Q^{37} + 9P^2R^7Q^{36} + 37PR^8Q^{35} + 40R^9Q^{34} + 35P^2R^9Q^{33} + 45R^{11}Q^{31} + 24P^2R^{11}Q^{30} + 28PR^{12}Q^{29} + 5R^{13}Q^{28} + 2P^2R^{13}Q^{27} + 14PR^{14}Q^{26} + 33R^{15}Q^{25} + 27P^2R^{15}Q^{24} + 30PR^{16}Q^{23} + 43R^{17}Q^{22} + 44P^2R^{17}Q^{21} + 31PR^{18}Q^{20} + 17R^{19}Q^{19} + 40P^2R^{19}Q^{18} + 33PR^{20}Q^{17} + 30R^{21}Q^{16} + 30P^2R^{21}Q^{15} + 30PR^{22}Q^{14} + 40R^{23}Q^{13} + 26P^2R^{23}Q^{12} + 29PR^{24}Q^{11} + 23R^{25}Q^{10} + 16P^2R^{25}Q^9 + 13PR^{26}Q^8 + 27R^{27}Q^7 + 9P^2R^{27}Q^6 + 19PR^{28}Q^5 + 27R^{29}Q^4 + 4P^2R^{29}Q^3 + 30PR^{30}Q^2 + 35R^{31}Q + 9P^2R^{31}) \\ = (Q^3 - R^2)^{16} - 47(4Q^{48} - 3P^2Q^{47} - 110PRQ^{46} + 125R^2Q^{45} - 32P^3RQ^{45} - 135P^2R^2Q^{44} + 130PR^3Q^{43} + 51R^4Q^{42} - 76P^3R^3Q^{42} + 69P^2R^4Q^{41} - 96PR^5Q^{40} + 106R^6Q^{39} - 32P^3R^5Q^{39} - 78P^2R^6Q^{38} + 60PR^7Q^{37} + 139R^8Q^{36} - 36P^3R^7Q^{36} - 81P^2R^8Q^{35} - 50PR^9Q^{34} + 86R^{10}Q^{33} - 140P^3R^9Q^{33} + 132P^2R^{10}Q^{32} - 138PR^{11}Q^{31} + 298R^{12}Q^{30} - 96P^3R^{11}Q^{30} - 48P^2R^{12}Q^{29} + 74PR^{13}Q^{28} - 168R^{14}Q^{27} - 8P^3R^{13}Q^{27} - 40PR^{15}Q^{25} + 438R^{16}Q^{24} - 108P^3R^{15}Q^{24} + 30P^2R^{16}Q^{23} - 42PR^{17}Q^{22} - 121R^{18}Q^{21} - 176P^3R^{17}Q^{21} + 51P^2R^{18}Q^{20} + 70PR^{19}Q^{19} + 279R^{20}Q^{18} - 160P^3R^{19}Q^{18} + 9P^2R^{20}Q^{17} + 12PR^{21}Q^{16} + 66R^{22}Q^{15} - 120P^3R^{21}Q^{15} - 6P^2R^{22}Q^{14} - 36PR^{23}Q^{13} + 157R^{24}Q^{12} - 104P^3R^{23}Q^{12} - 39P^2R^{24}Q^{11} - 22PR^{25}Q^{10} + 101R^{26}Q^9 - 64P^3R^{25}Q^9 - 9P^2R^{26}Q^8 - 32PR^{27}Q^7 + 119R^{28}Q^6 - 36P^3R^{27}Q^6 - 57P^2R^{28}Q^5 + 14PR^{29}Q^4 + 148R^{30}Q^3 - 16P^3R^{29}Q^3 - 84P^2R^{30}Q^2 - 136PR^{31}Q + 3R^{32} - 36P^3R^{31})$$

$$12^3 \vartheta^3 (4RQ^{45} + 33R^3Q^{42} + 4R^5Q^{39} + 28R^7Q^{36} + 41R^9Q^{33} + 12R^{11}Q^{30} + R^{13}Q^{27} + 37R^{15}Q^{24} + 22R^{17}Q^{21} + 20R^{19}Q^{18} + 15R^{21}Q^{15} + 13R^{23}Q^{12} + 8R^{25}Q^9 + 28R^{27}Q^6 + 2R^{29}Q^3 + 28R^{31}) \equiv (Q^3 - R^2)^{16} \pmod{47}$$

$$p_{10}(47t + 27) \equiv 0 \pmod{47}$$

$$12\vartheta(45PQ^{59} + 16P^3Q^{58} + 8RQ^{58} + 7P^2RQ^{57} + PR^2Q^{56} + 5R^3Q^{55} + 32P^3R^2Q^{55} + 21P^2R^3Q^{54} + 15PR^4Q^{53} + 27R^5Q^{52} + 15P^3R^4Q^{52} + 41P^2R^5Q^{51} + 20PR^6Q^{50} + 25R^7Q^{49} + 15P^3R^6Q^{49} + 10P^2R^7Q^{48} + 3PR^8Q^{47} + 4R^9Q^{46} + 31P^3R^8Q^{46} + 2P^2R^9Q^{45} + 44PR^{10}Q^{44} + 18R^{11}Q^{43} + 35P^3R^{10}Q^{43} + 42P^2R^{11}Q^{42} + 3PR^{12}Q^{41} + 40R^{13}Q^{40} + 41P^3R^{12}Q^{40} + 40P^2R^{13}Q^{39} + 17PR^{14}Q^{38} + 2R^{15}Q^{37} + 41P^3R^{14}Q^{37} + 43P^2R^{15}Q^{36} + 31PR^{16}Q^{35} + 46R^{17}Q^{34} + 19P^3R^{16}Q^{34} + 8P^2R^{17}Q^{33} + 21PR^{18}Q^{32} + 26R^{19}Q^{31} + 4P^3R^{18}Q^{31} + 38P^2R^{19}Q^{30} + 16PR^{20}Q^{29} + 6R^{21}Q^{28} + 33P^3R^{20}Q^{28} + 39P^2R^{21}Q^{27} + 4PR^{22}Q^{26} + 12R^{23}Q^{25} + 46P^3R^{22}Q^{25} + 6P^2R^{23}Q^{24} + 26PR^{24}Q^{23} + 35R^{25}Q^{22} + 4P^3R^{24}Q^{22} + 24P^2R^{25}Q^{21} + PR^{26}Q^{20} + 13R^{27}Q^{19} + 22P^3R^{26}Q^{19} + 33P^2R^{27}Q^{18} + 3PR^{28}Q^{17} + 16R^{29}Q^{16} + 42P^3R^{28}Q^{16} + 44P^2R^{29}Q^{15} + 7PR^{30}Q^{14} + 25R^{31}Q^{13} + 25P^3R^{30}Q^{13} + 11P^2R^{31}Q^{12} + 21PR^{32}Q^{11} + 32R^{33}Q^{10} + 42P^3R^{32}Q^{10} + 14P^2R^{33}Q^9 + 17PR^{34}Q^8 + 42R^{35}Q^7 + 31P^3R^{34}Q^7 + 15P^2R^{35}Q^6 + 31PR^{36}Q^5 + 46R^{37}Q^4 + 35P^3R^{36}Q^4 + 31P^2R^{37}Q^3 + 24PR^{38}Q^2 + 35R^{39}Q + 42P^3R^{38}Q + 27P^2R^{39})$$

$$= (Q^3 - R^2)^{20} - 47(2Q^{60} - 225P^2Q^{59} - 80P^4Q^{58} + 186PRQ^{58} + 41R^2Q^{57} + 52P^3RQ^{57} + 39P^2R^2Q^{56} - 12PR^3Q^{55} - 160P^4R^2Q^{55} + 45R^4Q^{54} + 52P^3R^3Q^{54} + 48P^2R^4Q^{53} - 52PR^5Q^{52} - 75P^4R^4Q^{52} + 118R^6Q^{51} - 128P^3R^5Q^{51} + 87P^2R^6Q^{50} - 38PR^7Q^{49} - 75P^4R^6Q^{49} + 212R^8Q^{48} + 44P^3R^7Q^{48} + 30P^2R^8Q^{47} + 48PR^9Q^{46} - 155P^4R^8Q^{46} - 288R^{10}Q^{45} + 156P^3R^9Q^{45} - 153P^2R^{10}Q^{44} + 80PR^{11}Q^{43} - 175P^4R^{10}Q^{43} + 957R^{12}Q^{42} - 20P^3R^{11}Q^{42} + 204P^2R^{12}Q^{41} - 160PR^{13}Q^{40} - 205P^4R^{12}Q^{40} - 1509R^{14}Q^{39} + 12P^3R^{13}Q^{39} + 132P^2R^{14}Q^{38} + 110PR^{15}Q^{37} - 205P^4R^{14}Q^{37} + 2787R^{16}Q^{36} - 48P^3R^{15}Q^{36} - 6P^2R^{16}Q^{35} - 92PR^{17}Q^{34} - 95P^4R^{16}Q^{34} - 3377R^{18}Q^{33} + 24P^3R^{17}Q^{33} + 9P^2R^{18}Q^{32} - 32PR^{19}Q^{31} - 20P^4R^{18}Q^{31} + 4016R^{20}Q^{30} - 96P^3R^{19}Q^{30} + 123P^2R^{20}Q^{29} + 22PR^{21}Q^{28} - 165P^4R^{20}Q^{28} - 3524R^{22}Q^{27} + 12P^3R^{21}Q^{27} + 90P^2R^{22}Q^{26} + 28PR^{23}Q^{25} - 230P^4R^{22}Q^{25} + 2818R^{24}Q^{24} + 80P^3R^{23}Q^{24} - 42P^2R^{24}Q^{23} - 122PR^{25}Q^{22} - 20P^4R^{24}Q^{22} - 1539R^{26}Q^{21} - 40P^3R^{25}Q^{21} + 153P^2R^{26}Q^{20} - 52PR^{27}Q^{19} - 110P^4R^{26}Q^{19} + 905R^{28}Q^{18} + 20P^3R^{27}Q^{18} + 201P^2R^{28}Q^{17} - 48PR^{29}Q^{16} - 210P^4R^{28}Q^{16} - 209R^{30}Q^{15} - 68P^3R^{29}Q^{15} + 66P^2R^{30}Q^{14} - 32PR^{31}Q^{13} - 125P^4R^{30}Q^{13} + 266R^{32}Q^{12} + 144P^3R^{31}Q^{12} - 33P^2R^{32}Q^{11} - 68PR^{33}Q^{10} - 210P^4R^{32}Q^{10} + 191R^{34}Q^9 + 100P^3R^{33}Q^9 - 6P^2R^{34}Q^8 - 58PR^{35}Q^7 - 155P^4R^{34}Q^7 + 247R^{36}Q^6 + 104P^3R^{35}Q^6 - 102PR^{37}Q^4 - 175P^4R^{36}Q^4 + 190R^{38}Q^3 + 60P^3R^{37}Q^3 + 24P^2R^{38}Q^2 - 172PR^{39}Q - 210P^4R^{38}Q + 3R^{40} - 132P^3R^{39})$$

$$12^4 \vartheta^4 (13Q^{58} + 26R^2Q^{55} + 21R^4Q^{52} + 21R^6Q^{49} + 34R^8Q^{46} + 2R^{10}Q^{43} + R^{12}Q^{40} + R^{14}Q^{37} + 36R^{16}Q^{34} + 15R^{18}Q^{31} + 18R^{20}Q^{28} + 8R^{22}Q^{25} + 15R^{24}Q^{22} + 12R^{26}Q^{19} + 40R^{28}Q^{16} + 35R^{30}Q^{13} + 40R^{32}Q^{10} + 34R^{34}Q^7 + 2R^{36}Q^4 + 40R^{38}Q) \equiv (Q^3 - R^2)^{20} \pmod{47}$$

$$p_{14}(47t + 19) \equiv 0 \pmod{47}$$

$$12\vartheta(4PQ^{83} + 35P^3Q^{82} + 7RQ^{82} + P^5Q^{81} + 40P^2RQ^{81} + 7PR^2Q^{80} + 3P^4RQ^{80} + 12R^3Q^{79} + 8P^3R^2Q^{79} + 27P^2R^3Q^{78} + 32P^5R^2Q^{78} + 44PR^4Q^{77} + 17P^4R^3Q^{77} + 35R^5Q^{76} + 46P^3R^4Q^{76} + 15P^2R^5Q^{75} + 41P^5R^4Q^{75} + 31PR^6Q^{74} + 5P^4R^5Q^{74} + 22R^7Q^{73} + P^2R^7Q^{72} + 41P^5R^6Q^{72} + 3PR^8Q^{71} + 8P^4R^7Q^{71} + 31R^9Q^{70} + 18P^3R^8Q^{70} + 20P^2R^9Q^{69} + 44P^5R^8Q^{69} + 12PR^{10}Q^{68} + 5P^4R^9Q^{68} + 30R^{11}Q^{67} + 42P^3R^{10}Q^{67} + 22P^2R^{11}Q^{66} + 46P^5R^{10}Q^{66} + 41PR^{12}Q^{65} + 37P^4R^{11}Q^{65} + 2R^{13}Q^{64} + 24P^3R^{12}Q^{64} + 40P^2R^{13}Q^{63} + 44P^5R^{12}Q^{63} + 39PR^{14}Q^{62} + P^4R^{13}Q^{62} + 28R^{15}Q^{61} + 20P^3R^{14}Q^{61} + 5P^2R^{15}Q^{60} + 23P^5R^{14}Q^{60} + 23PR^{16}Q^{59} + 22P^4R^{15}Q^{59} + 25R^{17}Q^{58} + 38P^3R^{16}Q^{58} + 24P^5R^{16}Q^{57} + 14PR^{18}Q^{56} + 27P^4R^{17}Q^{56} + 32R^{19}Q^{55} + 34P^3R^{18}Q^{55} + 40P^2R^{19}Q^{54} + 24P^5R^{18}Q^{54} + 9PR^{20}Q^{53} + 24P^4R^{19}Q^{53} + 41R^{21}Q^{52} + 35P^3R^{20}Q^{52} +$$

$$\begin{aligned}
& 26P^2R^{21}Q^{51} + 4P^5R^{20}Q^{51} + 7PR^{22}Q^{50} + 10P^4R^{21}Q^{50} + 18R^{23}Q^{49} + 37P^3R^{22}Q^{49} + 41P^2R^{23}Q^{48} + \\
& 6P^5R^{22}Q^{48} + 6PR^{24}Q^{47} + 41P^4R^{23}Q^{47} + 44R^{25}Q^{46} + 13P^3R^{24}Q^{46} + P^2R^{25}Q^{45} + 37P^5R^{24}Q^{45} + \\
& 2PR^{26}Q^{44} + 45P^4R^{25}Q^{44} + 30R^{27}Q^{43} + 23P^3R^{26}Q^{43} + 40P^2R^{27}Q^{42} + 29P^5R^{26}Q^{42} + \\
& 21P^4R^{27}Q^{41} + 15R^{29}Q^{40} + 8P^3R^{28}Q^{40} + 5P^2R^{29}Q^{39} + 24P^5R^{28}Q^{39} + 33PR^{30}Q^{38} + 5P^4R^{29}Q^{38} + \\
& 25R^{31}Q^{37} + 2P^3R^{30}Q^{37} + 45P^2R^{31}Q^{36} + 15P^5R^{30}Q^{36} + 12PR^{32}Q^{35} + 16P^4R^{31}Q^{35} + \\
& 3R^{33}Q^{34} + 26P^3R^{32}Q^{34} + 7P^2R^{33}Q^{33} + 28P^5R^{32}Q^{33} + 39PR^{34}Q^{32} + 21P^4R^{33}Q^{32} + 2R^{35}Q^{31} + \\
& 13P^3R^{34}Q^{31} + 21P^2R^{35}Q^{30} + 20P^5R^{34}Q^{30} + 22PR^{36}Q^{29} + 24P^4R^{35}Q^{29} + 32R^{37}Q^{28} + \\
& 28P^2R^{37}Q^{27} + 36P^5R^{36}Q^{27} + 14PR^{38}Q^{26} + 40P^4R^{37}Q^{26} + 11R^{39}Q^{25} + 31P^3R^{38}Q^{25} + \\
& 6P^2R^{39}Q^{24} + 26P^5R^{38}Q^{24} + 37PR^{40}Q^{23} + 45P^4R^{39}Q^{23} + 21R^{41}Q^{22} + 15P^3R^{40}Q^{22} + 4P^2R^{41}Q^{21} + \\
& 8P^5R^{40}Q^{21} + 46PR^{42}Q^{20} + 3P^4R^{41}Q^{20} + 43R^{43}Q^{19} + 44P^3R^{42}Q^{19} + 4P^2R^{43}Q^{18} + 27P^5R^{42}Q^{18} + \\
& 18PR^{44}Q^{17} + 10P^4R^{43}Q^{17} + 30R^{45}Q^{16} + 15P^3R^{44}Q^{16} + 10P^2R^{45}Q^{15} + 3P^5R^{44}Q^{15} + 10PR^{46}Q^{14} + \\
& 28P^4R^{45}Q^{14} + 14R^{47}Q^{13} + 17P^3R^{46}Q^{13} + P^2R^{47}Q^{12} + 41P^5R^{46}Q^{12} + 12PR^{48}Q^{11} + 16P^4R^{47}Q^{11} + \\
& 22R^{49}Q^{10} + 7P^3R^{48}Q^{10} + 10P^2R^{49}Q^9 + 35P^5R^{48}Q^9 + 7PR^{50}Q^8 + 18P^4R^{49}Q^8 + 31R^{51}Q^7 + \\
& 3P^3R^{50}Q^7 + 23P^2R^{51}Q^6 + 25P^5R^{50}Q^6 + 4PR^{52}Q^5 + 20P^4R^{51}Q^5 + 41R^{53}Q^4 + 36P^3R^{52}Q^4 + \\
& 3P^2R^{53}Q^3 + 12P^5R^{52}Q^3 + 42PR^{54}Q^2 + 31P^4R^{53}Q^2 + 35R^{55}Q + 16P^3) \\
& = (Q^3 - R^2)^{28} - 47(Q^{84} - 21P^2Q^{83} - 246P^4Q^{82} - 18PRQ^{82} - 7P^6Q^{81} + 53R^2Q^{81} - \\
& 36P^3RQ^{81} + 237P^2R^2Q^{80} - 6P^5RQ^{80} - 14PR^3Q^{79} - 26P^4R^2Q^{79} + 112R^4Q^{78} - 112P^3R^3Q^{78} - \\
& 224P^6R^2Q^{78} - 120P^2R^4Q^{77} + 114P^5R^3Q^{77} + 64PR^5Q^{76} - 205P^4R^4Q^{76} + 177R^6Q^{75} + \\
& 192P^3R^5Q^{75} - 287P^6R^4Q^{75} - 123P^2R^6Q^{74} + 258P^5R^5Q^{74} + 42PR^7Q^{73} + 43P^4R^6Q^{73} + \\
& 608R^8Q^{72} + 12P^3R^7Q^{72} - 287P^6R^6Q^{72} + 9P^2R^8Q^{71} + 240P^5R^7Q^{71} - 186PR^9Q^{70} - 68P^4R^8Q^{70} - \\
& 1864R^{10}Q^{69} + 20P^3R^9Q^{69} - 308P^6R^8Q^{69} + 66P^2R^{10}Q^{68} + 282P^5R^9Q^{68} - 80PR^{11}Q^{67} - \\
& 210P^4R^{10}Q^{67} + 8191R^{12}Q^{66} + 124P^3R^{11}Q^{66} - 322P^6R^{10}Q^{66} - 99P^2R^{12}Q^{65} + 66P^5R^{11}Q^{65} + \\
& 284PR^{13}Q^{64} + 42P^4R^{12}Q^{64} - 25127R^{14}Q^{63} - 116P^3R^{13}Q^{63} - 308P^6R^{12}Q^{63} - 51P^2R^{14}Q^{62} + \\
& 270P^5R^{13}Q^{62} + 54PR^{15}Q^{61} - 91P^4R^{14}Q^{61} + 66330R^{16}Q^{60} + 148P^3R^{15}Q^{60} - 161P^6R^{14}Q^{60} - \\
& 135P^2R^{16}Q^{59} + 12P^5R^{15}Q^{59} - 30PR^{17}Q^{58} - 96P^4R^{16}Q^{58} - 146754R^{18}Q^{57} + 268P^3R^{17}Q^{57} - \\
& 168P^6R^{16}Q^{57} - 18P^5R^{17}Q^{56} - 136PR^{19}Q^{55} - 50P^4R^{18}Q^{55} + 279475R^{20}Q^{54} - 32P^3R^{19}Q^{54} - \\
& 168P^6R^{18}Q^{54} + 192P^2R^{20}Q^{53} - 48P^5R^{19}Q^{53} - 230PR^{21}Q^{52} - 111P^4R^{20}Q^{52} - 456663R^{22}Q^{51} + \\
& 76P^3R^{21}Q^{51} - 28P^6R^{20}Q^{51} + 186P^2R^{22}Q^{50} - 36P^5R^{21}Q^{50} - 78PR^{23}Q^{49} - 97P^4R^{22}Q^{49} + \\
& 647487R^{24}Q^{48} - 92P^3R^{23}Q^{48} - 42P^6R^{22}Q^{48} + 129P^2R^{24}Q^{47} - 150P^5R^{23}Q^{47} - 282PR^{25}Q^{46} + \\
& 220P^4R^{24}Q^{46} - 796366R^{26}Q^{45} + 124P^3R^{25}Q^{45} - 259P^6R^{24}Q^{45} + 129P^2R^{26}Q^{44} - 78P^5R^{25}Q^{44} - \\
& 204PR^{27}Q^{43} + 82P^4R^{26}Q^{43} + 853710R^{28}Q^{42} - 168P^3R^{27}Q^{42} - 203P^6R^{26}Q^{42} + 162P^2R^{28}Q^{41} + \\
& 42P^5R^{27}Q^{41} + 20PR^{29}Q^{40} + 38P^4R^{28}Q^{40} - 796491R^{30}Q^{39} - 168P^6R^{28}Q^{39} - 39P^2R^{30}Q^{38} + \\
& 102P^5R^{29}Q^{38} - 20PR^{31}Q^{37} + 67P^4R^{30}Q^{37} + 647363R^{32}Q^{36} - 204P^3R^{31}Q^{36} - 105P^6R^{30}Q^{36} + \\
& 84P^2R^{32}Q^{35} + 48P^5R^{31}Q^{35} + 184PR^{33}Q^{34} - 44P^4R^{32}Q^{34} - 456879R^{34}Q^{33} + 84P^3R^{33}Q^{33} - \\
& 196P^6R^{32}Q^{33} - 162P^2R^{34}Q^{32} + 18P^5R^{33}Q^{32} + 194PR^{35}Q^{31} + 75P^4R^{34}Q^{31} + 279372R^{36}Q^{30} - \\
& 112P^3R^{35}Q^{30} - 140P^6R^{34}Q^{30} + 30P^2R^{36}Q^{29} + 48P^5R^{35}Q^{29} - 104PR^{37}Q^{28} + 252P^4R^{36}Q^{28} - \\
& 146824R^{38}Q^{27} - 44P^3R^{37}Q^{27} - 252P^6R^{36}Q^{27} - 3P^2R^{38}Q^{26} - 72P^5R^{37}Q^{26} + 142PR^{39}Q^{25} + \\
& 97P^4R^{38}Q^{25} + 66264R^{40}Q^{24} + 104P^3R^{39}Q^{24} - 182P^6R^{38}Q^{24} - 228P^2R^{40}Q^{23} - 222P^5R^{39}Q^{23} + \\
& 170PR^{41}Q^{22} - P^4R^{40}Q^{22} - 24916R^{42}Q^{21} + 236P^3R^{41}Q^{21} - 56P^6R^{40}Q^{21} - 294P^2R^{42}Q^{20} + \\
& 138P^5R^{41}Q^{20} - 126PR^{43}Q^{19} - 247P^4R^{42}Q^{19} + 8258R^{44}Q^{18} + 128P^3R^{43}Q^{18} - 189P^6R^{42}Q^{18} - \\
& 63P^2R^{44}Q^{17} - 12P^5R^{43}Q^{17} - 128PR^{45}Q^{16} + 70P^4R^{44}Q^{16} - 1966R^{46}Q^{15} + 52P^3R^{45}Q^{15} - \\
& 21P^6R^{44}Q^{15} - 51P^2R^{46}Q^{14} + 48P^5R^{45}Q^{14} - 14PR^{47}Q^{13} + 14P^4R^{46}Q^{13} + 589R^{48}Q^{12} + \\
& 56P^3R^{47}Q^{12} - 287P^6R^{46}Q^{12} - 21P^2R^{48}Q^{11} + 144P^5R^{47}Q^{11} - 100PR^{49}Q^{10} + 82P^4R^{48}Q^{10} + \\
& 151R^{50}Q^9 - 44P^3R^{49}Q^9 - 245P^6R^{48}Q^9 + 108P^2R^{50}Q^8 + 60P^5R^{49}Q^8 - 188PR^{51}Q^7 + \\
& 124P^4R^{50}Q^7 + 304R^{52}Q^6 + 80P^3R^{51}Q^6 - 175P^6R^{50}Q^6 + 6P^2R^{52}Q^5 - 48P^5R^{51}Q^5 - 34P^4R^{52}Q^4 + \\
& 260R^{54}Q^3 + 104P^3R^{53}Q^3 - 84P^6R^{52}Q^3 - 36P^2R^{54}Q^2 + 6P^5R^{53}Q^2 - 240PR^{55}Q - 104P^4R^{54}Q + \\
& 3R^{56} - 260P^3R^{55} - 224P^6R^{54})
\end{aligned}$$

$$126\vartheta^6(9Q^{81} + 6R^2Q^{78} + 40R^4Q^{75} + 40R^6Q^{72} + 20R^8Q^{69} + 38R^{10}Q^{66} + 20R^{12}Q^{63} + 19R^{14}Q^{60} +$$



$$28R^{16}Q^{57} + 28R^{18}Q^{54} + 36R^{20}Q^{51} + 7R^{22}Q^{48} + 4R^{24}Q^{45} + 26R^{26}Q^{42} + 28R^{28}Q^{39} + 41R^{30}Q^{36} + 17R^{32}Q^{33} + 39R^{34}Q^{30} + 42R^{36}Q^{27} + 46R^{38}Q^{24} + 25R^{40}Q^{21} + 8R^{42}Q^{18} + 27R^{44}Q^{15} + 40R^{46}Q^{12} + 33R^{48}Q^9 + 37R^{50}Q^6 + 14R^{52}Q^3 + 6R^{54}) \equiv (Q^3 - R^2)^{28} \pmod{47}$$

$$p_{26}(47t + 42) \equiv 0 \pmod{47} \text{ via } Q^{47}(Q^3 - R^2)^5$$

$$\begin{aligned} & 12\vartheta(13PQ^{61} + 16P^3Q^{60} + 29RQ^{60} + 9P^5Q^{59} + 45P^2RQ^{59} + 42P^7Q^{58} + 25PR^2Q^{58} + \\ & 6P^4RQ^{58} + 23P^9Q^{57} + 30R^3Q^{57} + 29P^3R^2Q^{57} + 7P^6RQ^{57} + 26P^{11}Q^{56} + 17P^2R^3Q^{56} + \\ & 11P^5R^2Q^{56} + 17P^8RQ^{56} + 37PR^4Q^{55} + 3P^4R^3Q^{55} + 6P^7R^2Q^{55} + 7P^{10}RQ^{55} + 7R^5Q^{54} + \\ & 30P^3R^4Q^{54} + 38P^6R^3Q^{54} + 4P^9R^2Q^{54} + 14P^2R^5Q^{53} + 16P^5R^4Q^{53} + 28P^8R^3Q^{53} + 44P^{11}R^2Q^{53} + \\ & 22PR^6Q^{52} + 46P^4R^5Q^{52} + 18P^7R^4Q^{52} + 29P^{10}R^3Q^{52} + 4R^7Q^{51} + 9P^3R^6Q^{51} + 45P^6R^5Q^{51} + \\ & 22P^9R^4Q^{51} + 38P^2R^7Q^{50} + 43P^5R^6Q^{50} + 11P^8R^5Q^{50} + 14P^{11}R^4Q^{50} + 45PR^8Q^{49} + 34P^4R^7Q^{49} + \\ & 16P^7R^6Q^{49} + 24P^{10}R^5Q^{49} + 24R^9Q^{48} + 15P^3R^8Q^{48} + 2P^6R^7Q^{48} + 38P^9R^6Q^{48} + 33P^2R^9Q^{47} + \\ & 39P^5R^8Q^{47} + 35P^8R^7Q^{47} + 43P^{11}R^6Q^{47} + 2PR^{10}Q^{46} + 31P^4R^9Q^{46} + 25P^7R^8Q^{46} + 5P^{10}R^7Q^{46} + \\ & 32R^{11}Q^{45} + 34P^3R^{10}Q^{45} + 14P^6R^9Q^{45} + 44P^9R^8Q^{45} + 13P^2R^{11}Q^{44} + 3P^5R^{10}Q^{44} + 45P^8R^9Q^{44} + \\ & 5P^{11}R^8Q^{44} + 19PR^{12}Q^{43} + 25P^4R^{11}Q^{43} + 36P^7R^{10}Q^{43} + 21P^{10}R^9Q^{43} + 41R^{13}Q^{42} + \\ & 36P^3R^{12}Q^{42} + P^6R^{11}Q^{42} + 43P^9R^{10}Q^{42} + 38P^2R^{13}Q^{41} + 27P^5R^{12}Q^{41} + 28P^8R^{11}Q^{41} + \\ & 46P^{11}R^{10}Q^{41} + 12PR^{14}Q^{40} + 33P^4R^{13}Q^{40} + 3P^7R^{12}Q^{40} + 3P^{10}R^{11}Q^{40} + 33R^{15}Q^{39} + P^3R^{14}Q^{39} + \\ & 34P^6R^{13}Q^{39} + 14P^9R^{12}Q^{39} + 13P^2R^{15}Q^{38} + 3P^5R^{14}Q^{38} + 18P^8R^{13}Q^{38} + 33P^{11}R^{12}Q^{38} + \\ & 31PR^{16}Q^{37} + 41P^4R^{15}Q^{37} + 36P^7R^{14}Q^{37} + P^{10}R^{13}Q^{37} + 40R^{17}Q^{36} + 16P^3R^{16}Q^{36} + \\ & 45P^6R^{15}Q^{36} + 26P^9R^{14}Q^{36} + 9P^2R^{17}Q^{35} + 39P^5R^{16}Q^{35} + 25P^8R^{15}Q^{35} + 8P^{11}R^{14}Q^{35} + \\ & 18PR^{18}Q^{34} + 38P^4R^{17}Q^{34} + 4P^7R^{16}Q^{34} + 46P^{10}R^{15}Q^{34} + 26R^{19}Q^{33} + 15P^3R^{18}Q^{33} + \\ & 3P^6R^{17}Q^{33} + 27P^9R^{16}Q^{33} + 26P^2R^{19}Q^{32} + 44P^5R^{18}Q^{32} + 10P^8R^{17}Q^{32} + 27P^{11}R^{16}Q^{32} + \\ & 45PR^{20}Q^{31} + 28P^4R^{19}Q^{31} + 27P^7R^{18}Q^{31} + 16P^{10}R^{17}Q^{31} + 25R^{21}Q^{30} + 37P^3R^{20}Q^{30} + \\ & 38P^6R^{19}Q^{30} + 45P^9R^{18}Q^{30} + 5P^2R^{21}Q^{29} + 28P^5R^{20}Q^{29} + 41P^8R^{19}Q^{29} + 43P^{11}R^{18}Q^{29} + \\ & 37PR^{22}Q^{28} + 8P^4R^{21}Q^{28} + 25P^7R^{20}Q^{28} + 25P^{10}R^{19}Q^{28} + 41R^{23}Q^{27} + P^3R^{22}Q^{27} + 35P^6R^{21}Q^{27} + \\ & 17P^9R^{20}Q^{27} + 24P^2R^{23}Q^{26} + 2P^5R^{22}Q^{26} + P^8R^{21}Q^{26} + 17P^{11}R^{20}Q^{26} + 22PR^{24}Q^{25} + \\ & 33P^4R^{23}Q^{25} + 21P^7R^{22}Q^{25} + 12P^{10}R^{21}Q^{25} + 33R^{25}Q^{24} + 39P^3R^{24}Q^{24} + 36P^6R^{23}Q^{24} + \\ & 29P^9R^{22}Q^{24} + 37P^2R^{25}Q^{23} + 14P^5R^{24}Q^{23} + 31P^8R^{23}Q^{23} + 28P^{11}R^{22}Q^{23} + 23PR^{26}Q^{22} + \\ & 31P^4R^{25}Q^{22} + 45P^7R^{24}Q^{22} + 29P^{10}R^{23}Q^{22} + 45R^{27}Q^{21} + 15P^3R^{26}Q^{21} + 29P^6R^{25}Q^{21} + \\ & 9P^9R^{24}Q^{21} + 28P^2R^{27}Q^{20} + 11P^5R^{26}Q^{20} + 44P^8R^{25}Q^{20} + 44P^{11}R^{24}Q^{20} + 44PR^{28}Q^{19} + \\ & 3P^4R^{27}Q^{19} + 23P^7R^{26}Q^{19} + 25P^{10}R^{25}Q^{19} + 18R^{29}Q^{18} + 4P^3R^{28}Q^{18} + 16P^6R^{27}Q^{18} + \\ & 42P^9R^{26}Q^{18} + 22P^2R^{29}Q^{17} + 36P^5R^{28}Q^{17} + 9P^8R^{27}Q^{17} + 2P^{11}R^{26}Q^{17} + 11PR^{30}Q^{16} + \\ & 40P^7R^{28}Q^{16} + 2P^{10}R^{27}Q^{16} + 19R^{31}Q^{15} + 23P^3R^{30}Q^{15} + 13P^6R^{29}Q^{15} + 31P^9R^{28}Q^{15} + \\ & 46P^2R^{31}Q^{14} + 22P^5R^{30}Q^{14} + 22P^8R^{29}Q^{14} + 2P^{11}R^{28}Q^{14} + 6PR^{32}Q^{13} + 10P^4R^{31}Q^{13} + \\ & 46P^7R^{30}Q^{13} + 13P^{10}R^{29}Q^{13} + 17R^{33}Q^{12} + 7P^3R^{32}Q^{12} + 15P^6R^{31}Q^{12} + 29P^9R^{30}Q^{12} + \\ & 33P^2R^{33}Q^{11} + 16P^5R^{32}Q^{11} + 20P^8R^{31}Q^{11} + 30P^{11}R^{30}Q^{11} + 38PR^{34}Q^{10} + 2P^4R^{33}Q^{10} + \\ & 27P^7R^{32}Q^{10} + 4P^{10}R^{31}Q^{10} + 21R^{35}Q^9 + 8P^6R^{33}Q^9 + 33P^9R^{32}Q^9 + 41P^2R^{35}Q^8 + 42P^5R^{34}Q^8 + \\ & 20P^8R^{33}Q^8 + 40PR^{36}Q^7 + 21P^4R^{35}Q^7 + 19P^7R^{34}Q^7 + 7R^{37}Q^6 + 32P^3R^{36}Q^6 + 3P^6R^{35}Q^6 + \\ & 45P^2R^{37}Q^5 + 12P^5R^{36}Q^5 + 41PR^{38}Q^4 + 41P^4R^{37}Q^4 + 21R^{39}Q^3 + 35P^3R^{38}Q^3 + 31P^2R^{39}Q^2 + \\ & 6PR^{40}Q + 15R^{41}) \end{aligned}$$

$$\begin{aligned} & = Q^{47}(Q^3 - R^2)^5 - 47(4Q^{62} - 61P^2Q^{61} - 81P^4Q^{60} - 76PRQ^{60} - 39P^6Q^{59} + \\ & 160R^2Q^{59} - 144P^3RQ^{59} - 207P^8Q^{58} + 104P^2R^2Q^{58} + 18P^5RQ^{58} - 109P^{10}Q^{57} - 14PR^3Q^{57} - \\ & 118P^4R^2Q^{57} + 176P^7RQ^{57} - 130P^{12}Q^{56} + 151R^4Q^{56} + 68P^3R^3Q^{56} - 7P^6R^2Q^{56} + 28P^9RQ^{56} - \\ & 101P^2R^4Q^{55} + 50P^5R^3Q^{55} + 62P^8R^2Q^{55} + 100P^{11}RQ^{55} + 154PR^5Q^{54} - 110P^4R^4Q^{54} - \\ & 152P^7R^3Q^{54} + 34P^{10}R^2Q^{54} + 36R^6Q^{53} + 76P^3R^5Q^{53} + 124P^6R^4Q^{53} - 106P^9R^3Q^{53} - \\ & 220P^{12}R^2Q^{53} - 17P^2R^6Q^{52} - 126P^5R^5Q^{52} + 46P^8R^4Q^{52} + 60P^{11}R^3Q^{52} + 124PR^7Q^{51} + \\ & 192P^4R^6Q^{51} - 136P^7R^5Q^{51} + 36P^{10}R^4Q^{51} + 46R^8Q^{50} - 140P^3R^7Q^{50} - 21P^6R^6Q^{50} + \\ & 74P^9R^5Q^{50} - 70P^{12}R^4Q^{50} - 34P^2R^8Q^{49} + 48P^5R^7Q^{49} + 4P^8R^6Q^{49} - 28P^{11}R^5Q^{49} + 66PR^9Q^{48} + \end{aligned}$$

$$\begin{aligned}
& 104P^4R^8Q^{48} + 88P^7R^7Q^{48} - 77P^{10}R^6Q^{48} + 143R^{10}Q^{47} - 64P^3R^9Q^{47} - 172P^6R^8Q^{47} + \\
& 24P^9R^7Q^{47} - 215P^{12}R^6Q^{47} + 142P^2R^{10}Q^{46} + 2P^5R^9Q^{46} + 73P^8R^8Q^{46} + 152P^{11}R^7Q^{46} - \\
& 130PR^{11}Q^{45} - 19P^4R^{10}Q^{45} + 80P^7R^9Q^{45} - 177P^{10}R^8Q^{45} + 191R^{12}Q^{44} + 120P^3R^{11}Q^{44} + \\
& 45P^6R^{10}Q^{44} - 25P^{12}R^8Q^{44} + 15P^2R^{12}Q^{43} - 76P^5R^{11}Q^{43} + 33P^8R^{10}Q^{43} - 28P^{11}R^9Q^{43} - \\
& 122PR^{13}Q^{42} - 37P^4R^{12}Q^{42} + 136P^7R^{11}Q^{42} - 125P^{10}R^{10}Q^{42} + 210R^{14}Q^{41} - 64P^3R^{13}Q^{41} - \\
& 78P^6R^{12}Q^{41} + 34P^9R^{11}Q^{41} - 230P^{12}R^{10}Q^{41} + 95P^2R^{14}Q^{40} - 66P^5R^{13}Q^{40} + 115P^8R^{12}Q^{40} + \\
& 196P^{11}R^{11}Q^{40} - 68PR^{15}Q^{39} + 186P^4R^{14}Q^{39} - 96P^7R^{13}Q^{39} - 51P^{10}R^{12}Q^{39} + 197R^{16}Q^{38} - \\
& 28P^3R^{15}Q^{38} + 189P^6R^{14}Q^{38} + 2P^9R^{13}Q^{38} - 165P^{12}R^{12}Q^{38} - 99P^2R^{16}Q^{37} - 116P^5R^{15}Q^{37} - \\
& 72P^8R^{14}Q^{37} + 116P^{11}R^{13}Q^{37} - 70PR^{17}Q^{36} + 133P^4R^{16}Q^{36} - 104P^7R^{15}Q^{36} - 38P^{10}R^{14}Q^{36} + \\
& 186R^{18}Q^{35} + 40P^3R^{17}Q^{35} - 55P^6R^{16}Q^{35} + 18P^9R^{15}Q^{35} - 40P^{12}R^{14}Q^{35} - 3P^2R^{18}Q^{34} + \\
& 22P^5R^{17}Q^{34} + 81P^8R^{16}Q^{34} - 152P^{11}R^{15}Q^{34} + 32PR^{19}Q^{33} + 105P^4R^{18}Q^{33} + 60P^7R^{17}Q^{33} + \\
& 38P^{10}R^{16}Q^{33} + 141R^{20}Q^{32} + 4P^3R^{19}Q^{32} - 121P^6R^{18}Q^{32} + 132P^9R^{17}Q^{32} - 135P^{12}R^{16}Q^{32} - \\
& 148P^2R^{20}Q^{31} + 52P^5R^{19}Q^{31} - 2P^8R^{18}Q^{31} + 92P^{11}R^{17}Q^{31} + 92PR^{21}Q^{30} - 93P^4R^{20}Q^{30} - \\
& 52P^7R^{19}Q^{30} - 114P^{10}R^{18}Q^{30} + 185R^{22}Q^{29} + 72P^3R^{21}Q^{29} + 51P^6R^{20}Q^{29} - 44P^9R^{19}Q^{29} - \\
& 215P^{12}R^{18}Q^{29} - 110P^2R^{22}Q^{28} + 38P^5R^{21}Q^{28} - 20P^8R^{20}Q^{28} + 24P^{11}R^{19}Q^{28} - 58PR^{23}Q^{27} + \\
& 111P^4R^{22}Q^{27} - 60P^7R^{21}Q^{27} + 10P^{10}R^{20}Q^{27} + 200R^{24}Q^{26} + 179P^6R^{22}Q^{26} + 118P^9R^{21}Q^{26} - \\
& 85P^{12}R^{20}Q^{26} + 59P^2R^{24}Q^{25} - 118P^5R^{23}Q^{25} - 8P^8R^{22}Q^{25} + 56P^{11}R^{21}Q^{25} - 48PR^{25}Q^{24} - \\
& 31P^4R^{24}Q^{24} + 4P^7R^{23}Q^{24} - 29P^{10}R^{22}Q^{24} + 223R^{26}Q^{23} - 60P^3R^{25}Q^{23} + 101P^6R^{24}Q^{23} - \\
& 64P^9R^{23}Q^{23} - 140P^{12}R^{22}Q^{23} + 50P^2R^{26}Q^{22} - 92P^5R^{25}Q^{22} - 26P^8R^{24}Q^{22} + 44P^{11}R^{23}Q^{22} - \\
& 34PR^{27}Q^{21} - 8P^4R^{26}Q^{21} + 20P^7R^{25}Q^{21} + 99P^{10}R^{24}Q^{21} + 148R^{28}Q^{20} - 104P^3R^{27}Q^{20} + \\
& 54P^6R^{26}Q^{20} - 62P^9R^{25}Q^{20} - 220P^{12}R^{24}Q^{20} - 100P^2R^{28}Q^{19} + 134P^5R^{27}Q^{19} - 3P^8R^{26}Q^{19} - \\
& 44P^{11}R^{25}Q^{19} + 20PR^{29}Q^{18} - 12P^4R^{28}Q^{18} + 100P^7R^{27}Q^{18} - 164P^{10}R^{26}Q^{18} + 103R^{30}Q^{17} - \\
& 20P^3R^{29}Q^{17} - 106P^6R^{28}Q^{17} + 130P^9R^{27}Q^{17} - 10P^{12}R^{26}Q^{17} + 158P^2R^{30}Q^{16} + 138P^5R^{29}Q^{16} - \\
& 103P^8R^{28}Q^{16} - 58PR^{31}Q^{15} - 77P^4R^{30}Q^{15} + 168P^7R^{29}Q^{15} - 105P^{10}R^{28}Q^{15} + 96R^{32}Q^{14} - \\
& 180P^3R^{31}Q^{14} - 30P^6R^{30}Q^{14} + 42P^9R^{29}Q^{14} - 10P^{12}R^{28}Q^{14} + 163P^2R^{32}Q^{13} + 42P^5R^{31}Q^{13} - \\
& 123P^8R^{30}Q^{13} + 52P^{11}R^{29}Q^{13} + 84PR^{33}Q^{12} - 15P^4R^{32}Q^{12} + 88P^7R^{31}Q^{12} - 109P^{10}R^{30}Q^{12} + \\
& 112R^{34}Q^{11} - 164P^3R^{33}Q^{11} - 29P^6R^{32}Q^{11} + 64P^9R^{31}Q^{11} - 150P^{12}R^{30}Q^{11} + 16P^2R^{34}Q^{10} + \\
& 188P^5R^{33}Q^{10} - 28P^8R^{32}Q^{10} + 8P^{11}R^{31}Q^{10} + 108PR^{35}Q^9 + 100P^4R^{34}Q^9 + 68P^7R^{33}Q^9 - \\
& 163P^{10}R^{32}Q^9 + 50R^{36}Q^8 - 64P^3R^{35}Q^8 - 193P^6R^{34}Q^8 - 76P^9R^{33}Q^8 + 34P^2R^{36}Q^7 - \\
& 24P^5R^{35}Q^7 - 83P^8R^{34}Q^7 + 188PR^{37}Q^6 + 42P^4R^{36}Q^6 - 4P^7R^{35}Q^6 + 109R^{38}Q^5 - 44P^3R^{37}Q^5 - \\
& 60P^6R^{36}Q^5 - 38P^2R^{38}Q^4 - 206P^5R^{37}Q^4 - 64PR^{39}Q^3 - 167P^4R^{38}Q^3 + 84R^{40}Q^2 - 152P^3R^{39}Q^2 - \\
& 26P^2R^{40}Q - 78PR^{41})
\end{aligned}$$

$$\begin{aligned}
& 12^{12}\vartheta^{12}(38Q^{56} + 39R^2Q^{53} + 6R^4Q^{50} + 5R^6Q^{47} + 29R^8Q^{44} + 13R^{10}Q^{41} + 41R^{12}Q^{38} + \\
& 37R^{14}Q^{35} + 25R^{16}Q^{32} + 5R^{18}Q^{29} + 14R^{20}Q^{26} + 12R^{22}Q^{23} + 39R^{24}Q^{20} + 21R^{26}Q^{17} + 21R^{28}Q^{14} + \\
& 33R^{30}Q^{11}) \equiv Q^{47}(Q^3 - R^2)^5 \pmod{47}
\end{aligned}$$

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$$p_{14}(53t + 48) \equiv 0 \pmod{53}$$

$$\begin{aligned}
& 12\vartheta(47PQ^{14} + 5P^3Q^{13} + 45RQ^{13} + 18P^5Q^{12} + 20P^2RQ^{12} + 39PR^2Q^{11} + 22P^4RQ^{11} + 33R^3Q^{10} + \\
& 29P^3R^2Q^{10} + 30P^2R^3Q^9 + 27P^5R^2Q^9 + 19PR^4Q^8 + 45P^4R^3Q^8 + 31R^5Q^7 + 23P^3R^4Q^7 + \\
& 19P^2R^5Q^6 + 21P^5R^4Q^6 + 32PR^6Q^5 + 26P^4R^5Q^5 + 52R^7Q^4 + 50P^3R^6Q^4 + 29P^2R^7Q^3 + \\
& 25P^5R^6Q^3 + 24PR^8Q^2 + 11P^4R^7Q^2 + 40R^9Q + 3P^3R^8Q + 4P^2R^9 + 26P^5R^8) \\
& = (Q^3 - R^2)^5 - 53(6Q^{15} - 48P^2Q^{14} - P^4Q^{13} + 10PRQ^{13} - 18P^6Q^{12} + 56R^2Q^{12} - 8P^3RQ^{12} - \\
& 12P^2R^2Q^{11} + 6PR^3Q^{10} + 6P^4R^2Q^{10} + 43R^4Q^9 + 4P^3R^3Q^9 - 27P^6R^2Q^9 + 12P^2R^4Q^8 - \\
& 18P^5R^3Q^8 + 20P^4R^4Q^7 + 58R^6Q^6 + 28P^3R^5Q^6 - 21P^6R^4Q^6 - 22PR^7Q^4 - 31P^4R^6Q^4 + \\
& 57R^8Q^3 - 12P^3R^7Q^3 - 25P^6R^6Q^3 - 15P^2R^8Q^2 + 18P^5R^7Q^2 - 40PR^9Q + P^4R^8Q + 3R^{10} - \\
& 4P^3R^9 - 26P^6R^8)
\end{aligned}$$

$$12^6 \vartheta^6 (29Q^{12} + 17R^2Q^9 + 25R^4Q^6 + 2R^6Q^3 + 36R^8) \equiv (Q^3 - R^2)^5 \pmod{53}$$

$$p_4(53t + 44) \equiv 0 \pmod{53}$$

$$\begin{aligned} & 12\vartheta(44RQ^{25} + 24R^3Q^{22} + 45R^5Q^{19} + 19R^7Q^{16} + 36R^9Q^{13} + 41R^{11}Q^{10} + R^{13}Q^7 + 26R^{15}Q^4 + \\ & 40R^{17}Q) \\ &= (Q^3 - R^2)^9 - 53(5Q^{27} - 88PRQ^{25} + 91R^2Q^{24} - 48PR^3Q^{22} + 66R^4Q^{21} - 90PR^5Q^{19} + \\ & 78R^6Q^{18} - 38PR^7Q^{16} + 62R^8Q^{15} - 72PR^9Q^{13} + 84R^{10}Q^{12} - 82PR^{11}Q^{10} + 34R^{12}Q^9 - 2PR^{13}Q^7 + \\ & 44R^{14}Q^6 - 52PR^{15}Q^4 + 85R^{16}Q^3 - 80PR^{17}Q + 3R^{18}) \end{aligned}$$

$$p_8(53t + 35) \equiv 0 \pmod{53}$$

$$\begin{aligned} & 12\vartheta(47PQ^{53} + 45RQ^{52} + 52P^2RQ^{51} + 43PR^2Q^{50} + 41R^3Q^{49} + 52P^2R^3Q^{48} + 25PR^4Q^{47} + \\ & 23R^5Q^{46} + 9P^2R^5Q^{45} + 41PR^6Q^{44} + 30R^7Q^{43} + 52P^2R^7Q^{42} + 21PR^8Q^{41} + 27R^9Q^{40} + \\ & 30P^2R^9Q^{39} + 22PR^{10}Q^{38} + 3R^{11}Q^{37} + 29P^2R^{11}Q^{36} + 50PR^{12}Q^{35} + 3R^{13}Q^{34} + 30P^2R^{13}Q^{33} + \\ & 46PR^{14}Q^{32} + 7R^{15}Q^{31} + 26P^2R^{15}Q^{30} + 52PR^{16}Q^{29} + 13R^{17}Q^{28} + 25P^2R^{17}Q^{27} + 46PR^{18}Q^{26} + \\ & 20R^{19}Q^{25} + 26P^2R^{19}Q^{24} + 36PR^{20}Q^{23} + 37R^{21}Q^{22} + 36P^2R^{21}Q^{21} + 48PR^{22}Q^{20} + 30R^{23}Q^{19} + \\ & 13P^2R^{23}Q^{18} + 17PR^{24}Q^{17} + 33R^{25}Q^{16} + 2P^2R^{25}Q^{15} + 29PR^{26}Q^{14} + 40R^{27}Q^{13} + 5P^2R^{27}Q^{12} + \\ & 4PR^{28}Q^{11} + 21R^{29}Q^{10} + 9P^2R^{29}Q^9 + 18PR^{30}Q^8 + 22R^{31}Q^7 + 24P^2R^{31}Q^6 + 29PR^{32}Q^5 + \\ & 4R^{33}Q^4 + 5P^2R^{33}Q^3 + 33PR^{34}Q^2 + 13R^{35}Q + 40P^2R^{35}) \\ &= (Q^3 - R^2)^{18} - 53(6Q^{54} - 183P^2Q^{53} + 18PRQ^{52} + 191R^2Q^{51} - 208P^3RQ^{51} + 45P^2R^2Q^{50} + \\ & 10PR^3Q^{49} + 168R^4Q^{48} - 208P^3R^3Q^{48} + 93P^2R^4Q^{47} + 24PR^5Q^{46} + 89R^6Q^{45} - 36P^3R^5Q^{45} - \\ & 93P^2R^6Q^{44} + 36PR^7Q^{43} + 183R^8Q^{42} - 208P^3R^7Q^{42} + 111P^2R^8Q^{41} - 18PR^9Q^{40} - 76R^{10}Q^{39} - \\ & 120P^3R^9Q^{39} + 36P^2R^{10}Q^{38} + 120PR^{11}Q^{37} + 364R^{12}Q^{36} - 116P^3R^{11}Q^{36} - 78P^2R^{12}Q^{35} + \\ & 194PR^{13}Q^{34} - 580R^{14}Q^{33} - 120P^3R^{13}Q^{33} - 66P^2R^{14}Q^{32} + 178PR^{15}Q^{31} + 868R^{16}Q^{30} - \\ & 104P^3R^{15}Q^{30} - 102P^2R^{16}Q^{29} + 156PR^{17}Q^{28} - 846R^{18}Q^{27} - 100P^3R^{17}Q^{27} - 78P^2R^{18}Q^{26} + \\ & 92PR^{19}Q^{25} + 952R^{20}Q^{24} - 104P^3R^{19}Q^{24} - 12P^2R^{20}Q^{23} + 34PR^{21}Q^{22} - 460R^{22}Q^{21} - \\ & 144P^3R^{21}Q^{21} - 102P^2R^{22}Q^{20} - 2PR^{23}Q^{19} + 487R^{24}Q^{18} - 52P^3R^{23}Q^{18} - 45P^2R^{24}Q^{17} - \\ & 26PR^{25}Q^{16} + R^{26}Q^{15} - 8P^3R^{25}Q^{15} - 99P^2R^{26}Q^{14} - 118PR^{27}Q^{13} + 166R^{28}Q^{12} - 20P^3R^{27}Q^{12} + \\ & 18P^2R^{28}Q^{11} - 20PR^{29}Q^{10} + 78R^{30}Q^9 - 36P^3R^{29}Q^9 + 18P^2R^{30}Q^8 + 28PR^{31}Q^7 + 30R^{32}Q^6 - \\ & 96P^3R^{31}Q^6 - 87P^2R^{32}Q^5 + 122PR^{33}Q^4 + 53R^{34}Q^3 - 20P^3R^{33}Q^3 + 27P^2R^{34}Q^2 - 46PR^{35}Q + \\ & R^{36} - 160P^3R^{35}) \end{aligned}$$

$$12^3 \vartheta^3 (26RQ^{51} + 26R^3Q^{48} + 31R^5Q^{45} + 26R^7Q^{42} + 15R^9Q^{39} + 41R^{11}Q^{36} + 15R^{13}Q^{33} + 13R^{15}Q^{30} + 39R^{17}Q^{27} + 13R^{19}Q^{24} + 18R^{21}Q^{21} + 33R^{23}Q^{18} + R^{25}Q^{15} + 29R^{27}Q^{12} + 31R^{29}Q^9 + 12R^{31}Q^6 + 29R^{33}Q^3 + 20R^{35}) \equiv (Q^3 - R^2)^{18} \pmod{53}$$

$$p_4(59t + 49) \equiv 0 \pmod{59}$$

$$\begin{aligned} & 12\vartheta(49RQ^{28} + 30R^3Q^{25} + 46R^5Q^{22} + 2R^7Q^{19} + 37R^9Q^{16} + 18R^{11}Q^{13} + 8R^{13}Q^{10} + 24R^{15}Q^7 + \\ & 19R^{17}Q^4 + 44R^{19}Q) \\ &= (Q^3 - R^2)^{10} - 59(5Q^{30} - 98PRQ^{28} + 102R^2Q^{27} - 60PR^3Q^{25} + 75R^4Q^{24} - 92PR^5Q^{22} + \\ & 68R^6Q^{21} - 4PR^7Q^{19} + 40R^8Q^{18} - 74PR^9Q^{16} + 56R^{10}Q^{15} - 36PR^{11}Q^{13} + 30R^{12}Q^{12} - \\ & 16PR^{13}Q^{10} + 40R^{14}Q^9 - 48PR^{15}Q^7 + 45R^{16}Q^6 - 38PR^{17}Q^4 + 90R^{18}Q^3 - 88PR^{19}Q + 3R^{20}) \end{aligned}$$

$$p_6(59t + 44) \equiv 0 \pmod{59}$$

$$12\vartheta(PQ^{44} + 39RQ^{43} + 23PR^2Q^{41} + 53R^3Q^{40} + 54PR^4Q^{38} + 9R^5Q^{37} + 23PR^6Q^{35} + 46R^7Q^{34} + 15PR^8Q^{32} + 5R^9Q^{31} + 32PR^{10}Q^{29} + 24R^{11}Q^{28} + 34PR^{12}Q^{26} + 56R^{13}Q^{25} + 26PR^{14}Q^{23} +$$

$$\begin{aligned}
& 28R^{15}Q^{22} + 27PR^{16}Q^{20} + 49R^{17}Q^{19} + 40PR^{18}Q^{17} + 29R^{19}Q^{16} + 41PR^{20}Q^{14} + 7R^{21}Q^{13} + \\
& 43PR^{22}Q^{11} + 42R^{23}Q^{10} + 6PR^{24}Q^8 + 5R^{25}Q^7 + 37PR^{26}Q^5 + 52R^{27}Q^4 + 24PR^{28}Q^2 + 15R^{29}Q \\
& = (Q^3 - R^2)^{15} - 59(4Q^{45} - 3P^2Q^{44} - 110PRQ^{43} + 130R^2Q^{42} - 69P^2R^2Q^{41} - 74PR^3Q^{40} + \\
& 151R^4Q^{39} - 162P^2R^4Q^{38} + 126PR^5Q^{37} + 48R^6Q^{36} - 69P^2R^6Q^{35} - 72PR^7Q^{34} + 134R^8Q^{33} - \\
& 45P^2R^8Q^{32} + 50PR^9Q^{31} - 13R^{10}Q^{30} - 96P^2R^{10}Q^{29} + 32PR^{11}Q^{28} + 205R^{12}Q^{27} - 102P^2R^{12}Q^{26} - \\
& 72PR^{13}Q^{25} + 29R^{14}Q^{24} - 78P^2R^{14}Q^{23} + 236R^{16}Q^{21} - 81P^2R^{16}Q^{20} - 38PR^{17}Q^{19} + 35R^{18}Q^{18} - \\
& 120P^2R^{18}Q^{17} + 42PR^{19}Q^{16} + 98R^{20}Q^{15} - 123P^2R^{20}Q^{14} + 114PR^{21}Q^{13} + 82R^{22}Q^{12} - \\
& 129P^2R^{22}Q^{11} - 80PR^{23}Q^{10} + 49R^{24}Q^9 - 18P^2R^{24}Q^8 + 86PR^{25}Q^7 + 144R^{26}Q^6 - 111P^2R^{26}Q^5 - \\
& 76PR^{27}Q^4 + 59R^{28}Q^3 - 72P^2R^{28}Q^2 - 42PR^{29}Q + R^{30})
\end{aligned}$$

$$\begin{aligned}
& 12^2\vartheta^2(58Q^{44} + 36R^2Q^{41} + 5R^4Q^{38} + 36R^6Q^{35} + 44R^8Q^{32} + 27R^{10}Q^{29} + 25R^{12}Q^{26} + 33R^{14}Q^{23} + \\
& 32R^{16}Q^{20} + 19R^{18}Q^{17} + 18R^{20}Q^{14} + 16R^{22}Q^{11} + 53R^{24}Q^8 + 22R^{26}Q^5 + 35R^{28}Q^2) \equiv (Q^3 - R^2)^{15} \\
& \pmod{59}
\end{aligned}$$

$$p_8(59t + 39) \equiv 0 \pmod{59}$$

$$\begin{aligned}
& 12\vartheta(6PQ^{59} + 48RQ^{58} + P^2RQ^{57} + 57PR^2Q^{56} + 25R^3Q^{55} + 20P^2R^3Q^{54} + 24PR^4Q^{53} + 18R^5Q^{52} + \\
& 22P^2R^5Q^{51} + 42PR^6Q^{50} + 55R^7Q^{49} + 29P^2R^7Q^{48} + 8PR^8Q^{47} + 35R^9Q^{46} + 50P^2R^9Q^{45} + \\
& 39R^{11}Q^{43} + 46P^2R^{11}Q^{42} + 8PR^{12}Q^{41} + 10R^{13}Q^{40} + 16P^2R^{13}Q^{39} + 32PR^{14}Q^{38} + 29R^{15}Q^{37} + \\
& 29P^2R^{15}Q^{36} + 28PR^{16}Q^{35} + 38R^{17}Q^{34} + 38P^2R^{17}Q^{33} + 38PR^{18}Q^{32} + 51R^{19}Q^{31} + 35P^2R^{19}Q^{30} + \\
& 3PR^{20}Q^{29} + 17R^{21}Q^{28} + 58P^2R^{21}Q^{27} + 3PR^{22}Q^{26} + 22R^{23}Q^{25} + 38P^2R^{23}Q^{24} + 14PR^{24}Q^{23} + \\
& 21R^{25}Q^{22} + 45P^2R^{25}Q^{21} + 58PR^{26}Q^{20} + 37R^{27}Q^{19} + 20P^2R^{27}Q^{18} + 7PR^{28}Q^{17} + 34R^{29}Q^{16} + \\
& 45P^2R^{29}Q^{15} + 11PR^{30}Q^{14} + 44R^{31}Q^{13} + 29P^2R^{31}Q^{12} + 16PR^{32}Q^{11} + 22R^{33}Q^{10} + 30P^2R^{33}Q^9 + \\
& 52PR^{34}Q^8 + 51R^{35}Q^7 + 35P^2R^{35}Q^6 + 58PR^{36}Q^5 + 27R^{37}Q^4 + 39P^2R^{37}Q^3 + 30PR^{38}Q^2 + \\
& 44R^{39}Q + 42P^2R^{39}) \\
& = (Q^3 - R^2)^{20} - 59(5Q^{60} - 24P^2Q^{59} - 158PRQ^{58} + 197R^2Q^{57} - 4P^3RQ^{57} - 219P^2R^2Q^{56} + \\
& 126PR^3Q^{55} + 106R^4Q^{54} - 80P^3R^3Q^{54} - 12P^2R^4Q^{53} + 40PR^5Q^{52} + 84R^6Q^{51} - 88P^3R^5Q^{51} - \\
& 72P^2R^6Q^{50} - 72PR^7Q^{49} + 297R^8Q^{48} - 116P^3R^7Q^{48} + 108P^2R^8Q^{47} - 114PR^9Q^{46} - 110R^{10}Q^{45} - \\
& 200P^3R^9Q^{45} + 204P^2R^{10}Q^{44} - 146PR^{11}Q^{43} + 784R^{12}Q^{42} - 184P^3R^{11}Q^{42} + 120P^2R^{12}Q^{41} + \\
& 28PR^{13}Q^{40} - 1242R^{14}Q^{39} - 64P^3R^{13}Q^{39} - 42P^2R^{14}Q^{38} + 12PR^{15}Q^{37} + 2274R^{16}Q^{36} - \\
& 116P^3R^{15}Q^{36} + 24P^2R^{16}Q^{35} - 16PR^{17}Q^{34} - 2660R^{18}Q^{33} - 152P^3R^{17}Q^{33} - 116PR^{19}Q^{31} + \\
& 3275R^{20}Q^{30} - 140P^3R^{19}Q^{30} + 183P^2R^{20}Q^{29} - 54PR^{21}Q^{28} - 2763R^{22}Q^{27} - 232P^3R^{21}Q^{27} + \\
& 183P^2R^{22}Q^{26} - 48PR^{23}Q^{25} + 2226R^{24}Q^{24} - 152P^3R^{23}Q^{24} + 120P^2R^{24}Q^{23} + 92PR^{25}Q^{22} - \\
& 1180R^{26}Q^{21} - 180P^3R^{25}Q^{21} - 114P^2R^{26}Q^{20} - 50PR^{27}Q^{19} + 805R^{28}Q^{18} - 80P^3R^{27}Q^{18} + \\
& 129P^2R^{28}Q^{17} - 94PR^{29}Q^{16} - 87R^{30}Q^{15} - 180P^3R^{29}Q^{15} + 93P^2R^{30}Q^{14} - 114PR^{31}Q^{13} + \\
& 195R^{32}Q^{12} - 116P^3R^{31}Q^{12} + 60P^2R^{32}Q^{11} + 104PR^{33}Q^{10} + 178R^{34}Q^9 - 120P^3R^{33}Q^9 - \\
& 66P^2R^{34}Q^8 + 36PR^{35}Q^7 + 130R^{36}Q^6 - 140P^3R^{35}Q^6 - 72P^2R^{36}Q^5 + 28PR^{37}Q^4 + 182R^{38}Q^3 - \\
& 156P^3R^{37}Q^3 + 54P^2R^{38}Q^2 - 172PR^{39}Q + 3R^{40} - 168P^3R^{39})
\end{aligned}$$

$$\begin{aligned}
& 12^3\vartheta^3(30RQ^{57} + 10R^3Q^{54} + 11R^5Q^{51} + 44R^7Q^{48} + 25R^9Q^{45} + 23R^{11}Q^{42} + 8R^{13}Q^{39} + 44R^{15}Q^{36} + \\
& 19R^{17}Q^{33} + 47R^{19}Q^{30} + 29R^{21}Q^{27} + 19R^{23}Q^{24} + 52R^{25}Q^{21} + 10R^{27}Q^{18} + 52R^{29}Q^{15} + 44R^{31}Q^{12} + \\
& 15R^{33}Q^9 + 47R^{35}Q^6 + 49R^{37}Q^3 + 21R^{39}) \equiv (Q^3 - R^2)^{20} \pmod{59}
\end{aligned}$$

$$p_{10}(59t + 34) \equiv 0 \pmod{59}$$

$$\begin{aligned}
& 12\vartheta(45PQ^{74} + 43P^3Q^{73} + 12RQ^{73} + 23P^2RQ^{72} + 20PR^2Q^{71} + 58R^3Q^{70} + 52P^3R^2Q^{70} + \\
& 32P^2R^3Q^{69} + 58PR^4Q^{68} + 21R^5Q^{67} + 24P^3R^4Q^{67} + 6P^2R^5Q^{66} + 27PR^6Q^{65} + 3R^7Q^{64} + \\
& 28P^3R^6Q^{64} + 29P^2R^7Q^{63} + 58PR^8Q^{62} + 52R^9Q^{61} + 46P^2R^9Q^{60} + 17PR^{10}Q^{59} + 52R^{11}Q^{58} + \\
& 46P^3R^{10}Q^{58} + P^2R^{11}Q^{57} + 30PR^{12}Q^{56} + R^{13}Q^{55} + 46P^3R^{12}Q^{55} + 46P^2R^{13}Q^{54} + 25PR^{14}Q^{53} + \\
& 12R^{15}Q^{52} + 36P^3R^{14}Q^{52} + 24P^2R^{15}Q^{51} + 43PR^{16}Q^{50} + 3R^{17}Q^{49} + 55P^3R^{16}Q^{49} + 27P^2R^{17}Q^{48} +
\end{aligned}$$

$$\begin{aligned}
& 9PR^{18}Q^{47} + 21R^{19}Q^{46} + 31P^3R^{18}Q^{46} + 2P^2R^{19}Q^{45} + 39PR^{20}Q^{44} + R^{21}Q^{43} + 40P^3R^{20}Q^{43} + \\
& 53P^2R^{21}Q^{42} + 46PR^{22}Q^{41} + 22R^{23}Q^{40} + 56P^3R^{22}Q^{40} + 23P^2R^{23}Q^{39} + 51PR^{24}Q^{38} + 7R^{25}Q^{37} + \\
& 8P^3R^{24}Q^{37} + 12P^2R^{25}Q^{36} + 49PR^{26}Q^{35} + 50R^{27}Q^{34} + 53P^3R^{26}Q^{34} + 17P^2R^{27}Q^{33} + 2PR^{28}Q^{32} + \\
& 48R^{29}Q^{31} + 32P^3R^{28}Q^{31} + 51P^2R^{29}Q^{30} + 27PR^{30}Q^{29} + 9R^{31}Q^{28} + 12P^3R^{30}Q^{28} + 30P^2R^{31}Q^{27} + \\
& 25PR^{32}Q^{26} + 50R^{33}Q^{25} + 54P^3R^{32}Q^{25} + 23P^2R^{33}Q^{24} + 19PR^{34}Q^{23} + 12R^{35}Q^{22} + 15P^3R^{34}Q^{22} + \\
& 33P^2R^{35}Q^{21} + 24PR^{36}Q^{20} + 58R^{37}Q^{19} + 26P^3R^{36}Q^{19} + 40P^2R^{37}Q^{18} + 7PR^{38}Q^{17} + 4R^{39}Q^{16} + \\
& 6P^3R^{38}Q^{16} + 26P^2R^{39}Q^{15} + 48PR^{40}Q^{14} + 2R^{41}Q^{13} + 58P^3R^{40}Q^{13} + 25P^2R^{41}Q^{12} + 21PR^{42}Q^{11} + \\
& 41R^{43}Q^{10} + 38P^3R^{42}Q^{10} + 28P^2R^{43}Q^9 + PR^{44}Q^8 + 42R^{45}Q^7 + 31P^3R^{44}Q^7 + 18P^2R^{45}Q^6 + \\
& 28PR^{46}Q^5 + 6R^{47}Q^4 + 23P^3R^{46}Q^4 + 7P^2R^{47}Q^3 + 12PR^{48}Q^2 + 15R^{49}Q + P^3R^{48}Q + 4P^2R^{49}) \\
& = (Q^3 - R^2)^{25} - 59(2Q^{75} - 222P^2Q^{74} - 215P^4Q^{73} + 170PRQ^{73} + 77R^2Q^{72} + 108P^3RQ^{72} + \\
& 24P^2R^2Q^{71} - 172PR^3Q^{70} - 260P^4R^2Q^{70} + 292R^4Q^{69} + 96P^3R^3Q^{69} - 138P^2R^4Q^{68} + \\
& 178PR^5Q^{67} - 120P^4R^4Q^{67} + 59R^6Q^{66} + 96P^3R^5Q^{66} - 87P^2R^6Q^{65} + 152PR^7Q^{64} - 140P^4R^6Q^{64} + \\
& 276R^8Q^{63} - 24P^3R^7Q^{63} - 126P^2R^8Q^{62} - 627R^{10}Q^{60} - 184P^3R^9Q^{60} + 105P^2R^{10}Q^{59} - \\
& 158PR^{11}Q^{58} - 230P^4R^{10}Q^{58} + 3208R^{12}Q^{57} + 232P^3R^{11}Q^{57} - 84P^2R^{12}Q^{56} + 146PR^{13}Q^{55} - \\
& 230P^4R^{12}Q^{55} - 8125R^{14}Q^{54} - 8P^3R^{13}Q^{54} + 81P^2R^{14}Q^{53} + 100PR^{15}Q^{52} - 180P^4R^{14}Q^{52} + \\
& 18380R^{16}Q^{51} + 96P^3R^{15}Q^{51} - 84P^2R^{16}Q^{50} + 148PR^{17}Q^{49} - 275P^4R^{16}Q^{49} - 34576R^{18}Q^{48} + \\
& 104P^3R^{17}Q^{48} + 48P^2R^{18}Q^{47} + 2PR^{19}Q^{46} - 155P^4R^{18}Q^{46} + 55471R^{20}Q^{45} + 168P^3R^{19}Q^{45} - \\
& 75P^2R^{20}Q^{44} + 216PR^{21}Q^{43} - 200P^4R^{20}Q^{43} - 75494R^{22}Q^{42} - 24P^3R^{21}Q^{42} - 24P^2R^{22}Q^{41} + \\
& 142PR^{23}Q^{40} - 280P^4R^{22}Q^{40} + 88219R^{24}Q^{39} + 56P^3R^{23}Q^{39} - 165P^2R^{24}Q^{38} + 226PR^{25}Q^{37} - \\
& 40P^4R^{24}Q^{37} - 87985R^{26}Q^{36} + 100P^3R^{25}Q^{36} - 168P^2R^{26}Q^{35} - 130PR^{27}Q^{34} - 265P^4R^{26}Q^{34} + \\
& 75806R^{28}Q^{33} + 128P^3R^{27}Q^{33} + 180P^2R^{28}Q^{32} - 154PR^{29}Q^{31} - 160P^4R^{28}Q^{31} - 55273R^{30}Q^{30} - \\
& 152P^3R^{29}Q^{30} + 63P^2R^{30}Q^{29} + 90PR^{31}Q^{28} - 60P^4R^{30}Q^{28} + 34812R^{32}Q^{27} + 48P^3R^{31}Q^{27} + \\
& 9P^2R^{32}Q^{26} - 142PR^{33}Q^{25} - 270P^4R^{32}Q^{25} - 18204R^{34}Q^{24} + 28P^3R^{33}Q^{24} + 60P^2R^{34}Q^{23} + \\
& 58PR^{35}Q^{22} - 75P^4R^{34}Q^{22} + 8384R^{36}Q^{21} - 48P^3R^{35}Q^{21} + 78P^2R^{36}Q^{20} - 232PR^{37}Q^{19} - \\
& 130P^4R^{36}Q^{19} - 2911R^{38}Q^{18} - 144P^3R^{37}Q^{18} + 117P^2R^{38}Q^{17} + 184PR^{39}Q^{16} - 30P^4R^{38}Q^{16} + \\
& 914R^{40}Q^{15} + 112P^3R^{39}Q^{15} - 108P^2R^{40}Q^{14} + 126PR^{41}Q^{13} - 290P^4R^{40}Q^{13} - 33R^{42}Q^{12} + \\
& 88P^3R^{41}Q^{12} + 39P^2R^{42}Q^{11} - 186PR^{43}Q^{10} - 190P^4R^{42}Q^{10} + 259R^{44}Q^9 + 24P^3R^{43}Q^9 + \\
& 96P^2R^{44}Q^8 - 80PR^{45}Q^7 - 155P^4R^{44}Q^7 + 44R^{46}Q^6 + 32P^3R^{45}Q^6 - 99P^2R^{46}Q^5 + 38PR^{47}Q^4 - \\
& 115P^4R^{46}Q^4 + 77R^{48}Q^3 - 24P^3R^{47}Q^3 - 39P^2R^{48}Q^2 - 74PR^{49}Q - 5P^4R^{48}Q + R^{50} - 20P^3R^{49})
\end{aligned}$$

$$\begin{aligned}
& 12^4 \vartheta^4 (42Q^{73} + 11R^2Q^{70} + 55R^4Q^{67} + 15R^6Q^{64} + 12R^{10}Q^{58} + 12R^{12}Q^{55} + 53R^{14}Q^{52} + \\
& 40R^{16}Q^{49} + 44R^{18}Q^{46} + 13R^{20}Q^{43} + 30R^{22}Q^{40} + 38R^{24}Q^{37} + R^{26}Q^{34} + 34R^{28}Q^{31} + 57R^{30}Q^{28} + \\
& 50R^{32}Q^{25} + 27R^{34}Q^{22} + 35R^{36}Q^{19} + 58R^{38}Q^{16} + 10R^{40}Q^{13} + 33R^{42}Q^{10} + 44R^{44}Q^7 + 6R^{46}Q^4 + \\
& 49R^{48}Q) \equiv (Q^3 - R^2)^{25} \pmod{59}
\end{aligned}$$

$$p_{14}(59t + 24) \equiv 0 \pmod{59}$$

$$\begin{aligned}
& 12\vartheta(26PQ^{104} + 29P^3Q^{103} + 25RQ^{103} + 46P^5Q^{102} + 52P^2RQ^{102} + 10PR^2Q^{101} + 50P^4RQ^{101} + \\
& 29R^3Q^{100} + 43P^3R^2Q^{100} + 39P^2R^3Q^{99} + 43P^5R^2Q^{99} + 9PR^4Q^{98} + 8P^4R^3Q^{98} + 18R^5Q^{97} + \\
& 17P^3R^4Q^{97} + 57P^2R^5Q^{96} + 48P^5R^4Q^{96} + 39PR^6Q^{95} + 42P^4R^5Q^{95} + 42R^7Q^{94} + 25P^3R^6Q^{94} + \\
& 16P^2R^7Q^{93} + 30P^5R^6Q^{93} + 17PR^8Q^{92} + 25P^4R^7Q^{92} + 52R^9Q^{91} + 44P^3R^8Q^{91} + 35P^2R^9Q^{90} + \\
& 20P^5R^8Q^{90} + 11PR^{10}Q^{89} + 37P^4R^9Q^{89} + 2R^{11}Q^{88} + 48P^3R^{10}Q^{88} + 40P^2R^{11}Q^{87} + 35P^5R^{10}Q^{87} + \\
& 2PR^{12}Q^{86} + 54P^4R^{11}Q^{86} + 43R^{13}Q^{85} + 41P^2R^{13}Q^{84} + 43P^5R^{12}Q^{84} + 25PR^{14}Q^{83} + 14P^4R^{13}Q^{83} + \\
& 47R^{15}Q^{82} + 31P^3R^{14}Q^{82} + 5P^2R^{15}Q^{81} + 15P^5R^{14}Q^{81} + 5PR^{16}Q^{80} + 39R^{17}Q^{79} + 19P^3R^{16}Q^{79} + \\
& 4P^2R^{17}Q^{78} + P^5R^{16}Q^{78} + 41PR^{18}Q^{77} + 9P^4R^{17}Q^{77} + 29R^{19}Q^{76} + P^3R^{18}Q^{76} + 21P^2R^{19}Q^{75} + \\
& 48P^5R^{18}Q^{75} + 21PR^{20}Q^{74} + 15P^4R^{19}Q^{74} + 15R^{21}Q^{73} + 56P^3R^{20}Q^{73} + 28P^2R^{21}Q^{72} + \\
& 35P^5R^{20}Q^{72} + 42PR^{22}Q^{71} + 5P^4R^{21}Q^{71} + 25R^{23}Q^{70} + 25P^3R^{22}Q^{70} + 41P^2R^{23}Q^{69} + \\
& P^5R^{22}Q^{69} + 58PR^{24}Q^{68} + 5P^4R^{23}Q^{68} + 36R^{25}Q^{67} + 32P^3R^{24}Q^{67} + 12P^2R^{25}Q^{66} + 10P^5R^{24}Q^{66} + \\
& 33PR^{26}Q^{65} + 28P^4R^{25}Q^{65} + 2R^{27}Q^{64} + 58P^3R^{26}Q^{64} + 37P^2R^{27}Q^{63} + 12P^5R^{26}Q^{63} + 23PR^{28}Q^{62} +
\end{aligned}$$

$$\begin{aligned}
& 45P^4R^{27}Q^{62} + 36R^{29}Q^{61} + 12P^3R^{28}Q^{61} + 41P^2R^{29}Q^{60} + 36P^5R^{28}Q^{60} + 39PR^{30}Q^{59} + \\
& 55P^4R^{29}Q^{59} + 10R^{31}Q^{58} + 34P^3R^{30}Q^{58} + 14P^2R^{31}Q^{57} + 49P^5R^{30}Q^{57} + 29PR^{32}Q^{56} + 34R^{33}Q^{55} + \\
& 4P^3R^{32}Q^{55} + 44P^2R^{33}Q^{54} + 34P^5R^{32}Q^{54} + 5PR^{34}Q^{53} + 26P^4R^{33}Q^{53} + 49R^{35}Q^{52} + 34P^3R^{34}Q^{52} + \\
& 51P^2R^{35}Q^{51} + 48P^5R^{34}Q^{51} + 37PR^{36}Q^{50} + 28P^4R^{35}Q^{50} + 28R^{37}Q^{49} + 30P^3R^{36}Q^{49} + \\
& 31P^2R^{37}Q^{48} + 28P^5R^{36}Q^{48} + 45PR^{38}Q^{47} + 18P^4R^{37}Q^{47} + 50R^{39}Q^{46} + 17P^3R^{38}Q^{46} + \\
& 50P^2R^{39}Q^{45} + 6P^5R^{38}Q^{45} + 17PR^{40}Q^{44} + 38P^4R^{39}Q^{44} + 16R^{41}Q^{43} + 14P^3R^{40}Q^{43} + \\
& 23P^2R^{41}Q^{42} + 5P^5R^{40}Q^{42} + 29PR^{42}Q^{41} + 10P^4R^{41}Q^{41} + 58R^{43}Q^{40} + 32P^3R^{42}Q^{40} + \\
& 13P^2R^{43}Q^{39} + 44P^5R^{42}Q^{39} + 25PR^{44}Q^{38} + 31P^4R^{43}Q^{38} + 29R^{45}Q^{37} + 48P^3R^{44}Q^{37} + \\
& 5P^2R^{45}Q^{36} + 32P^5R^{44}Q^{36} + 19PR^{46}Q^{35} + 40P^4R^{45}Q^{35} + R^{47}Q^{34} + 12P^3R^{46}Q^{34} + 16P^2R^{47}Q^{33} + \\
& 51P^5R^{46}Q^{33} + 13PR^{48}Q^{32} + 31P^4R^{47}Q^{32} + 56R^{49}Q^{31} + 8P^3R^{48}Q^{31} + 19P^2R^{49}Q^{30} + \\
& 47P^5R^{48}Q^{30} + 46PR^{50}Q^{29} + 57P^4R^{49}Q^{29} + 36R^{51}Q^{28} + 27P^3R^{50}Q^{28} + 22P^2R^{51}Q^{27} + \\
& 28P^5R^{50}Q^{27} + 3PR^{52}Q^{26} + 24P^4R^{51}Q^{26} + 39P^3R^{52}Q^{25} + 5P^2R^{53}Q^{24} + 4P^5R^{52}Q^{24} + \\
& 54PR^{54}Q^{23} + 12P^4R^{53}Q^{23} + 46R^{55}Q^{22} + 19P^3R^{54}Q^{22} + 6P^2R^{55}Q^{21} + 36P^5R^{54}Q^{21} + 41PR^{56}Q^{20} + \\
& 47P^4R^{55}Q^{20} + 6R^{57}Q^{19} + 4P^3R^{56}Q^{19} + 49P^2R^{57}Q^{18} + 31P^5R^{56}Q^{18} + 27PR^{58}Q^{17} + 6P^4R^{57}Q^{17} + \\
& 13R^{59}Q^{16} + 40P^3R^{58}Q^{16} + 49P^2R^{59}Q^{15} + 17P^5R^{58}Q^{15} + 13PR^{60}Q^{14} + 19P^4R^{59}Q^{14} + \\
& 12R^{61}Q^{13} + 8P^3R^{60}Q^{13} + 13P^2R^{61}Q^{12} + 20P^5R^{60}Q^{12} + 27PR^{62}Q^{11} + 42P^4R^{61}Q^{11} + 33R^{63}Q^{10} + \\
& 32P^3R^{62}Q^{10} + 4P^2R^{63}Q^9 + 8P^5R^{62}Q^9 + 3PR^{64}Q^8 + 42P^4R^{63}Q^8 + 24R^{65}Q^7 + 19P^3R^{64}Q^7 + \\
& 39P^2R^{65}Q^6 + 39P^5R^{64}Q^6 + 24PR^{66}Q^5 + 55P^4R^{65}Q^5 + 36R^{67}Q^4 + 20P^3R^{66}Q^4 + 55P^2R^{67}Q^3 + \\
& 31P^5R^{66}Q^3 + 23PR^{68}Q^2 + 30P^4R^{67}Q^2 + 15R^{69}Q + 55P^3R^{68}Q + 34P^2R^{69} + 33P^5R^{68}) \\
& = (Q^3 - R^2)^{35} - 59(3Q^{105} - 177P^2Q^{104} - 195P^4Q^{103} + 10PRQ^{103} - 322P^6Q^{102} + \\
& 183R^2Q^{102} - 152P^3RQ^{102} + 303P^2R^2Q^{101} - 24P^5RQ^{101} - 132PR^3Q^{100} + 46P^4R^2Q^{100} + \\
& 216R^4Q^{99} + 24P^3R^3Q^{99} - 301P^6R^2Q^{99} + 228P^2R^4Q^{98} + 252P^5R^3Q^{98} - 42PR^5Q^{97} - \\
& 41P^4R^4Q^{97} + 38R^6Q^{96} - 272P^3R^5Q^{96} - 336P^6R^4Q^{96} + 108P^2R^6Q^{95} + 36P^5R^5Q^{95} - \\
& 32PR^7Q^{94} + 115P^4R^6Q^{94} + 1203R^8Q^{93} + 84P^3R^7Q^{93} - 210P^6R^6Q^{93} + 15P^2R^8Q^{92} + \\
& 30P^5R^7Q^{92} - 250PR^9Q^{91} - 118P^4R^8Q^{91} - 5179R^{10}Q^{90} + 76P^3R^9Q^{90} - 140P^6R^8Q^{90} + \\
& 183P^2R^{10}Q^{89} - 102P^5R^9Q^{89} + 56PR^{11}Q^{88} - 51P^4R^{10}Q^{88} + 27580R^{12}Q^{87} + 8P^3R^{11}Q^{87} - \\
& 245P^6R^{10}Q^{87} + 276P^2R^{12}Q^{86} - 120P^5R^{11}Q^{86} - 256PR^{13}Q^{85} + 337P^4R^{12}Q^{85} - 113655R^{14}Q^{84} - \\
& 244P^3R^{13}Q^{84} - 301P^6R^{12}Q^{84} + 66P^2R^{14}Q^{83} + 168P^5R^{13}Q^{83} - 184PR^{15}Q^{82} - 138P^4R^{14}Q^{82} + \\
& 399241R^{16}Q^{81} + 168P^3R^{15}Q^{81} - 105P^6R^{14}Q^{81} + 84P^5R^{15}Q^{80} - 174PR^{17}Q^{79} - 118P^4R^{16}Q^{79} - \\
& 1196471R^{18}Q^{78} + 76P^3R^{17}Q^{78} - 7P^6R^{16}Q^{78} - 228P^2R^{18}Q^{77} + 30P^5R^{17}Q^{77} + 52PR^{19}Q^{76} + \\
& 73P^4R^{18}Q^{76} + 3111697R^{20}Q^{75} - 28P^3R^{19}Q^{75} - 336P^6R^{18}Q^{75} + 21P^2R^{20}Q^{74} + 210P^5R^{19}Q^{74} + \\
& 94PR^{21}Q^{73} - 305P^4R^{20}Q^{73} - 7071492R^{22}Q^{72} + 136P^3R^{21}Q^{72} - 245P^6R^{20}Q^{72} - 63P^2R^{22}Q^{71} + \\
& 138P^5R^{21}Q^{71} + 168PR^{23}Q^{70} - 140P^4R^{22}Q^{70} + 14143462R^{24}Q^{69} - 92P^3R^{23}Q^{69} - 7P^6R^{22}Q^{69} - \\
& 186P^2R^{24}Q^{68} - 6P^5R^{23}Q^{68} + 100PR^{25}Q^{67} - 130P^4R^{24}Q^{67} - 25022505R^{26}Q^{66} + 216P^3R^{25}Q^{66} - \\
& 70P^6R^{24}Q^{66} - 75P^2R^{26}Q^{65} - 120P^5R^{25}Q^{65} + 198PR^{27}Q^{64} - 160P^4R^{26}Q^{64} + 39321461R^{28}Q^{63} + \\
& 28P^3R^{27}Q^{63} - 84P^6R^{26}Q^{63} + 117P^2R^{28}Q^{62} - 162P^5R^{27}Q^{62} - 38PR^{29}Q^{61} + 270P^4R^{28}Q^{61} - \\
& 55049703R^{30}Q^{60} - 132P^3R^{29}Q^{60} - 252P^6R^{28}Q^{60} - 63P^2R^{30}Q^{59} - 90P^5R^{29}Q^{59} + 180PR^{31}Q^{58} - \\
& 15P^4R^{30}Q^{58} + 68812509R^{32}Q^{57} + 48P^3R^{31}Q^{57} - 343P^6R^{30}Q^{57} - 3P^2R^{32}Q^{56} + 300P^5R^{31}Q^{56} - \\
& 112PR^{33}Q^{55} + 62P^4R^{32}Q^{55} - 76907625R^{34}Q^{54} - 176P^3R^{33}Q^{54} - 238P^6R^{32}Q^{54} + 309P^2R^{34}Q^{53} + \\
& 108P^5R^{33}Q^{53} - 192PR^{35}Q^{52} - 42P^4R^{34}Q^{52} + 76908205R^{36}Q^{51} - 128P^3R^{35}Q^{51} - 336P^6R^{34}Q^{51} + \\
& 33P^2R^{36}Q^{50} + 72P^5R^{35}Q^{50} + 102PR^{37}Q^{49} - 46P^4R^{36}Q^{49} - 68812063R^{38}Q^{48} - 52P^3R^{37}Q^{48} - \\
& 196P^6R^{36}Q^{48} - 18P^2R^{38}Q^{47} - 12P^5R^{37}Q^{47} - 140PR^{39}Q^{46} + 89P^4R^{38}Q^{46} + 55050107R^{40}Q^{45} - \\
& 240P^3R^{39}Q^{45} - 42P^6R^{38}Q^{45} + 129P^2R^{40}Q^{44} - 228P^5R^{39}Q^{44} + 62PR^{41}Q^{43} + 57P^4R^{40}Q^{43} - \\
& 39321045R^{42}Q^{42} + 16P^3R^{41}Q^{42} - 35P^6R^{40}Q^{42} - 81P^2R^{42}Q^{41} + 132P^5R^{41}Q^{41} - 218PR^{43}Q^{40} - \\
& 58P^4R^{42}Q^{40} + 25022965R^{44}Q^{39} + 212P^3R^{43}Q^{39} - 308P^6R^{42}Q^{39} - 117P^2R^{44}Q^{38} + 42P^5R^{43}Q^{38} - \\
& 52PR^{45}Q^{37} - 72P^4R^{44}Q^{37} - 14143173R^{46}Q^{36} + 144P^3R^{45}Q^{36} - 224P^6R^{44}Q^{36} - 45P^2R^{46}Q^{35} + \\
& 36P^5R^{45}Q^{35} + 102PR^{47}Q^{34} + 163P^4R^{46}Q^{34} + 7071907R^{48}Q^{33} - 44P^3R^{47}Q^{33} - 357P^6R^{46}Q^{33} + \\
& 39P^2R^{48}Q^{32} + 126P^5R^{47}Q^{32} - 134PR^{49}Q^{31} + 299P^4R^{48}Q^{31} - 3111210R^{50}Q^{30} + 24P^3R^{49}Q^{30} - \\
& 329P^6R^{48}Q^{30} - 171P^2R^{50}Q^{29} - 162P^5R^{49}Q^{29} - 148PR^{51}Q^{28} + 49P^4R^{50}Q^{28} + 1196805R^{52}Q^{27} +
\end{aligned}$$

$$\begin{aligned}
& 104P^3R^{51}Q^{27} - 196P^6R^{50}Q^{27} + 48P^2R^{52}Q^{26} - 96P^5R^{51}Q^{26} + 302PR^{53}Q^{25} - 167P^4R^{52}Q^{25} - \\
& 398654R^{54}Q^{24} + 136P^3R^{53}Q^{24} - 28P^6R^{52}Q^{24} - 339P^2R^{54}Q^{23} + 120P^5R^{53}Q^{23} - 8PR^{55}Q^{22} + \\
& 151P^4R^{54}Q^{22} + 114079R^{56}Q^{21} + 12P^3R^{55}Q^{21} - 252P^6R^{54}Q^{21} + 3P^2R^{56}Q^{20} - 102P^5R^{55}Q^{20} + \\
& 174PR^{57}Q^{19} + 73P^4R^{56}Q^{19} - 27425R^{58}Q^{18} - 104P^3R^{57}Q^{18} - 217P^6R^{56}Q^{18} + 165P^2R^{58}Q^{17} + \\
& 96P^5R^{57}Q^{17} + 20PR^{59}Q^{16} - 159P^4R^{58}Q^{16} + 5591R^{60}Q^{15} - 252P^3R^{59}Q^{15} - 119P^6R^{58}Q^{15} + \\
& 39P^2R^{60}Q^{14} + 6P^5R^{59}Q^{14} + 98PR^{61}Q^{13} + 224P^4R^{60}Q^{13} - 665R^{62}Q^{12} + 120P^3R^{61}Q^{12} - \\
& 140P^6R^{60}Q^{12} - 153P^2R^{62}Q^{11} - 228P^5R^{61}Q^{11} - 194PR^{63}Q^{10} + 76P^4R^{62}Q^{10} + 292R^{64}Q^9 + \\
& 120P^3R^{63}Q^9 - 56P^6R^{62}Q^9 + 240P^2R^{64}Q^8 - 36P^5R^{63}Q^8 - 6PR^{65}Q^7 + 256P^4R^{64}Q^7 + 247R^{66}Q^6 - \\
& 128P^3R^{65}Q^6 - 273P^6R^{64}Q^6 + 222P^2R^{66}Q^5 - 162P^5R^{65}Q^5 - 86PR^{67}Q^4 + 85P^4R^{66}Q^4 + \\
& 116R^{68}Q^3 - 217P^6R^{66}Q^3 + 90P^2R^{68}Q^2 + 24P^5R^{67}Q^2 - 102PR^{69}Q - 380P^4R^{68}Q + R^{70} - \\
& 236P^3R^{69} - 231P^6R^{68})
\end{aligned}$$

$$\begin{aligned}
& 12^6 \vartheta^6 (36Q^{102} + 8R^2Q^{99} + 35R^4Q^{96} + 44R^6Q^{93} + 49R^8Q^{90} + 12R^{10}Q^{87} + 8R^{12}Q^{84} + 22R^{14}Q^{81} + \\
& 29R^{16}Q^{78} + 35R^{18}Q^{75} + 12R^{20}Q^{72} + 29R^{22}Q^{69} + 54R^{24}Q^{66} + 53R^{26}Q^{63} + 41R^{28}Q^{60} + 5R^{30}Q^{57} + \\
& 42R^{32}Q^{54} + 35R^{34}Q^{51} + 45R^{36}Q^{48} + 56R^{38}Q^{45} + 27R^{40}Q^{42} + 37R^{42}Q^{39} + 43R^{44}Q^{36} + 4R^{46}Q^{33} + \\
& 6R^{48}Q^{30} + 45R^{50}Q^{27} + 57R^{52}Q^{24} + 41R^{54}Q^{21} + 14R^{56}Q^{18} + 21R^{58}Q^{15} + 49R^{60}Q^{12} + 55R^{62}Q^9 + \\
& 10R^{64}Q^6 + 14R^{66}Q^3 + 13R^{68}) \equiv (Q^3 - R^2)^{35} \pmod{59}
\end{aligned}$$

$$p_{26}(59t + 53) \equiv 0 \pmod{59} \text{ via } Q^{59}(Q^3 - R^2)^6$$

$$\begin{aligned}
& 12^9(46PQ^{76} + 3P^3Q^{75} + 2RQ^{75} + 2P^5Q^{74} + 26P^2RQ^{74} + 23P^7Q^{73} + 22PR^2Q^{73} + 22P^4RQ^{73} + \\
& 29P^9Q^{72} + 51R^3Q^{72} + 6P^3R^2Q^{72} + 44P^6RQ^{72} + 40P^{11}Q^{71} + 36P^2R^3Q^{71} + 30P^5R^2Q^{71} + \\
& 21P^8RQ^{71} + PR^4Q^{70} + 57P^4R^3Q^{70} + 15P^7R^2Q^{70} + 15P^{10}RQ^{70} + 33R^5Q^{69} + 50P^3R^4Q^{69} + \\
& 18P^6R^3Q^{69} + 49P^9R^2Q^{69} + 40P^2R^5Q^{68} + 48P^5R^4Q^{68} + 31P^8R^3Q^{68} + 33P^{11}R^2Q^{68} + 5PR^6Q^{67} + \\
& 24P^4R^5Q^{67} + 20P^7R^4Q^{67} + 24P^{10}R^3Q^{67} + 49R^7Q^{66} + 37P^3R^6Q^{66} + 36P^6R^5Q^{66} + 13P^9R^4Q^{66} + \\
& 5P^2R^7Q^{65} + 49P^5R^6Q^{65} + 54P^8R^5Q^{65} + 40P^{11}R^4Q^{65} + 4PR^8Q^{64} + 4P^4R^7Q^{64} + 8P^7R^6Q^{64} + \\
& 55P^{10}R^5Q^{64} + 54R^9Q^{63} + 54P^3R^8Q^{63} + 21P^6R^7Q^{63} + 25P^9R^6Q^{63} + 13P^2R^9Q^{62} + 30P^5R^8Q^{62} + \\
& 39P^8R^7Q^{62} + 6P^{11}R^6Q^{62} + 16PR^{10}Q^{61} + 54P^4R^9Q^{61} + 28P^7R^8Q^{61} + 24P^{10}R^7Q^{61} + 10R^{11}Q^{60} + \\
& 40P^3R^{10}Q^{60} + 35P^6R^9Q^{60} + 10P^9R^8Q^{60} + 34P^2R^{11}Q^{59} + 44P^5R^{10}Q^{59} + 42P^8R^9Q^{59} + \\
& 58P^{11}R^8Q^{59} + 7PR^{12}Q^{58} + 20P^4R^{11}Q^{58} + 28P^7R^{10}Q^{58} + 44P^{10}R^9Q^{58} + 13R^{13}Q^{57} + \\
& 55P^3R^{12}Q^{57} + 15P^6R^{11}Q^{57} + 54P^2R^{13}Q^{56} + 22P^5R^{12}Q^{56} + 16P^8R^{11}Q^{56} + 44P^{11}R^{10}Q^{56} + \\
& 45PR^{14}Q^{55} + 34P^4R^{13}Q^{55} + 15P^{10}R^{11}Q^{55} + 8P^3R^{14}Q^{54} + 35P^6R^{13}Q^{54} + 33P^9R^{12}Q^{54} + \\
& 8P^2R^{15}Q^{53} + 40P^5R^{14}Q^{53} + 10P^8R^{13}Q^{53} + 10P^{11}R^{12}Q^{53} + 27PR^{16}Q^{52} + 36P^4R^{15}Q^{52} + \\
& 51P^7R^{14}Q^{52} + P^{10}R^{13}Q^{52} + 57R^{17}Q^{51} + 55P^3R^{16}Q^{51} + 15P^6R^{15}Q^{51} + 39P^9R^{14}Q^{51} + \\
& 22P^2R^{17}Q^{50} + 8P^5R^{16}Q^{50} + 3P^8R^{15}Q^{50} + 12P^{11}R^{14}Q^{50} + 49PR^{18}Q^{49} + 30P^4R^{17}Q^{49} + \\
& 32P^7R^{16}Q^{49} + 22P^{10}R^{15}Q^{49} + 43R^{19}Q^{48} + 5P^3R^{18}Q^{48} + 40P^6R^{17}Q^{48} + 36P^9R^{16}Q^{48} + \\
& 52P^2R^{19}Q^{47} + 45P^5R^{18}Q^{47} + 35P^8R^{17}Q^{47} + 33P^{11}R^{16}Q^{47} + 14PR^{20}Q^{46} + 56P^4R^{19}Q^{46} + \\
& 57P^7R^{18}Q^{46} + 48P^{10}R^{17}Q^{46} + 43R^{21}Q^{45} + 55P^3R^{20}Q^{45} + 20P^6R^{19}Q^{45} + 3P^9R^{18}Q^{45} + \\
& 36P^2R^{21}Q^{44} + 36P^5R^{20}Q^{44} + 46P^8R^{19}Q^{44} + 2P^{11}R^{18}Q^{44} + 9PR^{22}Q^{43} + 13P^4R^{21}Q^{43} + \\
& 50P^7R^{20}Q^{43} + 29P^{10}R^{19}Q^{43} + 58R^{23}Q^{42} + 54P^3R^{22}Q^{42} + 20P^6R^{21}Q^{42} + 8P^9R^{20}Q^{42} + \\
& 10P^2R^{23}Q^{41} + 30P^5R^{22}Q^{41} + 7P^8R^{21}Q^{41} + 45P^{11}R^{20}Q^{41} + 55PR^{24}Q^{40} + 38P^4R^{23}Q^{40} + \\
& 21P^7R^{22}Q^{40} + 32P^{10}R^{21}Q^{40} + 57R^{25}Q^{39} + 39P^3R^{24}Q^{39} + 49P^6R^{23}Q^{39} + 47P^9R^{22}Q^{39} + \\
& P^2R^{25}Q^{38} + 23P^5R^{24}Q^{38} + 23P^8R^{23}Q^{38} + 23P^{11}R^{22}Q^{38} + 10PR^{26}Q^{37} + 54P^4R^{25}Q^{37} + \\
& 7P^7R^{24}Q^{37} + 34P^{10}R^{23}Q^{37} + 31R^{27}Q^{36} + 13P^3R^{26}Q^{36} + 46P^6R^{25}Q^{36} + 23P^9R^{24}Q^{36} + \\
& 10P^2R^{27}Q^{35} + 38P^5R^{26}Q^{35} + 5P^8R^{25}Q^{35} + 3P^{11}R^{24}Q^{35} + 37PR^{28}Q^{34} + 39P^4R^{27}Q^{34} + \\
& 15P^7R^{26}Q^{34} + 22P^{10}R^{25}Q^{34} + 45R^{29}Q^{33} + 58P^3R^{28}Q^{33} + 44P^6R^{27}Q^{33} + 27P^9R^{26}Q^{33} + \\
& 8P^2R^{29}Q^{32} + 46P^5R^{28}Q^{32} + 51P^8R^{27}Q^{32} + 33P^{11}R^{26}Q^{32} + 36PR^{30}Q^{31} + 38P^4R^{29}Q^{31} + \\
& 5P^7R^{28}Q^{31} + 47P^{10}R^{27}Q^{31} + 44R^{31}Q^{30} + 37P^3R^{30}Q^{30} + 7P^6R^{29}Q^{30} + 51P^9R^{28}Q^{30} + \\
& 45P^2R^{31}Q^{29} + 41P^8R^{29}Q^{29} + 38P^{11}R^{28}Q^{29} + 4PR^{32}Q^{28} + P^4R^{31}Q^{28} + 30P^7R^{30}Q^{28} +
\end{aligned}$$

$$\begin{aligned}
& 42P^{10}R^{29}Q^{28} + 49R^{33}Q^{27} + 10P^3R^{32}Q^{27} + 21P^6R^{31}Q^{27} + 44P^9R^{30}Q^{27} + 16P^2R^{33}Q^{26} + \\
& 55P^5R^{32}Q^{26} + 44P^8R^{31}Q^{26} + 50P^4R^{33}Q^{25} + 27P^7R^{32}Q^{25} + 5P^{10}R^{31}Q^{25} + 22R^{35}Q^{24} + \\
& 6P^3R^{34}Q^{24} + 42P^6R^{33}Q^{24} + 23P^9R^{32}Q^{24} + 42P^2R^{35}Q^{23} + 54P^5R^{34}Q^{23} + 19P^8R^{33}Q^{23} + \\
& 20P^{11}R^{32}Q^{23} + 57PR^{36}Q^{22} + 42P^4R^{35}Q^{22} + 42P^7R^{34}Q^{22} + 55P^{10}R^{33}Q^{22} + 58R^{37}Q^{21} + \\
& 36P^3R^{36}Q^{21} + 45P^6R^{35}Q^{21} + 42P^9R^{34}Q^{21} + 7P^2R^{37}Q^{20} + 23P^5R^{36}Q^{20} + 39P^8R^{35}Q^{20} + \\
& 6P^{11}R^{34}Q^{20} + 18PR^{38}Q^{19} + 3P^4R^{37}Q^{19} + 21P^7R^{36}Q^{19} + 13P^{10}R^{35}Q^{19} + 26R^{39}Q^{18} + \\
& 25P^3R^{38}Q^{18} + 22P^6R^{37}Q^{18} + 3P^9R^{36}Q^{18} + 21P^2R^{39}Q^{17} + 30P^5R^{38}Q^{17} + 46P^8R^{37}Q^{17} + \\
& 44P^{11}R^{36}Q^{17} + 14PR^{40}Q^{16} + 30P^4R^{39}Q^{16} + 40P^7R^{38}Q^{16} + 12P^{10}R^{37}Q^{16} + 12R^{41}Q^{15} + \\
& 54P^3R^{40}Q^{15} + 16P^6R^{39}Q^{15} + 10P^9R^{38}Q^{15} + 32P^2R^{41}Q^{14} + 20P^5R^{40}Q^{14} + 54P^8R^{39}Q^{14} + \\
& 48P^{11}R^{38}Q^{14} + 22PR^{42}Q^{13} + 30P^4R^{41}Q^{13} + 39P^7R^{40}Q^{13} + 48P^{10}R^{39}Q^{13} + 36R^{43}Q^{12} + \\
& 44P^3R^{42}Q^{12} + 48P^6R^{41}Q^{12} + 36P^9R^{40}Q^{12} + 3P^2R^{43}Q^{11} + 21P^5R^{42}Q^{11} + 23P^8R^{41}Q^{11} + \\
& 48P^{11}R^{40}Q^{11} + 11PR^{44}Q^{10} + 2P^4R^{43}Q^{10} + 39P^7R^{42}Q^{10} + 47P^{10}R^{41}Q^{10} + 20R^{45}Q^9 + \\
& 58P^3R^{44}Q^9 + 20P^6R^{43}Q^9 + 55P^9R^{42}Q^9 + 22P^2R^{45}Q^8 + 18P^5R^{44}Q^8 + 11P^8R^{43}Q^8 + 17PR^{46}Q^7 + \\
& 26P^4R^{45}Q^7 + 29P^7R^{44}Q^7 + 34R^{47}Q^6 + 18P^3R^{46}Q^6 + 9P^6R^{45}Q^6 + 18P^2R^{47}Q^5 + 36P^5R^{46}Q^5 + \\
& 45PR^{48}Q^4 + 27P^4R^{47}Q^4 + 35R^{49}Q^3 + 54P^3R^{48}Q^3 + 13P^2R^{49}Q^2 + 34PR^{50}Q + 7R^{51}) \\
& = Q^{59}(Q^3 - R^2)^6 - 59(Q^{77} - 235P^2Q^{76} - 13P^4Q^{75} + 232PRQ^{75} - 3P^6Q^{74} + 26R^2Q^{74} - \\
& 116P^3RQ^{74} - 110P^8Q^{73} + 28P^2R^2Q^{73} - 92P^5RQ^{73} - 137P^{10}Q^{72} - 154PR^3Q^{72} + 98P^4R^2Q^{72} - \\
& 104P^7RQ^{72} - 200P^{12}Q^{71} + 266R^4Q^{71} - 132P^3R^3Q^{71} + 69P^6R^2Q^{71} + 48P^9RQ^{71} + 191P^2R^4Q^{70} - \\
& 126P^5R^3Q^{70} + 42P^8R^2Q^{70} + 124P^{11}RQ^{70} - 162PR^5Q^{69} + 30P^4R^4Q^{69} - 8P^7R^3Q^{69} - \\
& 162P^{10}R^2Q^{69} + 189R^6Q^{68} + 52P^3R^5Q^{68} - 140P^6R^4Q^{68} + 82P^9R^3Q^{68} - 165P^{12}R^2Q^{68} + \\
& 164P^2R^6Q^{67} + 132P^5R^5Q^{67} + 71P^8R^4Q^{67} + 48P^{11}R^3Q^{67} - 228PR^7Q^{66} - 74P^4R^6Q^{66} - \\
& 80P^7R^5Q^{66} + 79P^{10}R^4Q^{66} + 269R^8Q^{65} + 184P^3R^7Q^{65} - 73P^6R^6Q^{65} - 190P^9R^5Q^{65} - \\
& 200P^{12}R^4Q^{65} + 16P^2R^8Q^{64} + 222P^5R^7Q^{64} + 229P^8R^6Q^{64} - 96P^{11}R^5Q^{64} - 246PR^9Q^{63} - \\
& 208P^4R^8Q^{63} - 44P^7R^7Q^{63} + 131P^{10}R^6Q^{63} + 242R^{10}Q^{62} + 208P^3R^9Q^{62} - 28P^6R^8Q^{62} - \\
& 78P^9R^7Q^{62} - 30P^{12}R^6Q^{62} + 12P^2R^{10}Q^{61} - 102P^5R^9Q^{61} + 62P^8R^8Q^{61} - 48P^{11}R^7Q^{61} + \\
& 24PR^{11}Q^{60} + 44P^4R^{10}Q^{60} - 28P^7R^9Q^{60} + 100P^{10}R^8Q^{60} + 58R^{12}Q^{59} + 56P^3R^{11}Q^{59} - \\
& 62P^6R^{10}Q^{59} - 164P^9R^9Q^{59} - 290P^{12}R^8Q^{59} + 174P^2R^{12}Q^{58} + 102P^5R^{11}Q^{58} + 44P^8R^{10}Q^{58} + \\
& 56P^{11}R^9Q^{58} + 26PR^{13}Q^{57} - 157P^4R^{12}Q^{57} + 36P^7R^{11}Q^{57} + 198P^{10}R^{10}Q^{57} + 51R^{14}Q^{56} - \\
& 52P^3R^{13}Q^{56} - 8P^6R^{12}Q^{56} - 38P^9R^{11}Q^{56} - 220P^{12}R^{10}Q^{56} - 15P^2R^{14}Q^{55} - 30P^5R^{13}Q^{55} + \\
& 79P^8R^{12}Q^{55} + 104P^{11}R^{11}Q^{55} + 212PR^{15}Q^{54} + 144P^4R^{14}Q^{54} - 104P^7R^{13}Q^{54} - 107P^{10}R^{12}Q^{54} + \\
& 99R^{16}Q^{53} + 80P^3R^{15}Q^{53} - 47P^6R^{14}Q^{53} + 126P^9R^{13}Q^{53} - 50P^{12}R^{12}Q^{53} - 70P^2R^{16}Q^{52} - \\
& 26P^5R^{15}Q^{52} - 212P^8R^{14}Q^{52} + 48P^{11}R^{13}Q^{52} - 110PR^{17}Q^{51} - 103P^4R^{16}Q^{51} + 156P^7R^{15}Q^{51} - \\
& 157P^{10}R^{14}Q^{51} + 281R^{18}Q^{50} + 88P^3R^{17}Q^{50} + 84P^6R^{16}Q^{50} + 182P^9R^{15}Q^{50} - 60P^{12}R^{14}Q^{50} - \\
& 78P^2R^{18}Q^{49} - 40P^5R^{17}Q^{49} - 86P^8R^{16}Q^{49} - 16P^{11}R^{15}Q^{49} - 30PR^{19}Q^{48} + 186P^4R^{18}Q^{48} + \\
& 12P^7R^{17}Q^{48} - 19P^{10}R^{16}Q^{48} + 232R^{20}Q^{47} - 136P^3R^{19}Q^{47} - 54P^6R^{18}Q^{47} - 46P^9R^{17}Q^{47} - \\
& 165P^{12}R^{16}Q^{47} + 173P^2R^{20}Q^{46} - 68P^5R^{19}Q^{46} - 88P^8R^{18}Q^{46} - 132P^{11}R^{17}Q^{46} - 158PR^{21}Q^{45} - \\
& 77P^4R^{20}Q^{45} + 184P^7R^{19}Q^{45} + 191P^{10}R^{18}Q^{45} + 267R^{22}Q^{44} + 104P^3R^{21}Q^{44} - 74P^6R^{20}Q^{44} - \\
& 202P^9R^{19}Q^{44} - 10P^{12}R^{18}Q^{44} + 87P^2R^{22}Q^{43} + 110P^5R^{21}Q^{43} - 100P^8R^{20}Q^{43} - 48P^{11}R^{19}Q^{43} - \\
& 140PR^{23}Q^{42} - 148P^4R^{22}Q^{42} + 92P^7R^{21}Q^{42} + 121P^{10}R^{20}Q^{42} + 311R^{24}Q^{41} + 200P^3R^{23}Q^{41} + \\
& 21P^6R^{22}Q^{41} + 98P^9R^{21}Q^{41} - 225P^{12}R^{20}Q^{41} - 252P^2R^{24}Q^{40} - 50P^5R^{23}Q^{40} - 26P^8R^{22}Q^{40} + \\
& 16P^{11}R^{21}Q^{40} - 120PR^{25}Q^{39} + 42P^4R^{24}Q^{39} - 172P^7R^{23}Q^{39} - 66P^{10}R^{22}Q^{39} + 236R^{26}Q^{38} + \\
& 136P^3R^{25}Q^{38} + 130P^6R^{24}Q^{38} + 70P^9R^{23}Q^{38} - 115P^{12}R^{22}Q^{38} - 21P^2R^{26}Q^{37} - 112P^5R^{25}Q^{37} + \\
& 40P^8R^{24}Q^{37} - 104P^{11}R^{23}Q^{37} - 30PR^{27}Q^{36} + 179P^4R^{26}Q^{36} - 176P^7R^{25}Q^{36} + 26P^{10}R^{24}Q^{36} + \\
& 209R^{28}Q^{35} + 148P^3R^{27}Q^{35} + 41P^6R^{26}Q^{35} + 106P^9R^{25}Q^{35} - 15P^{12}R^{24}Q^{35} - 141P^2R^{28}Q^{34} + \\
& 26P^5R^{27}Q^{34} + 80P^8R^{26}Q^{34} - 16P^{11}R^{25}Q^{34} - 38PR^{29}Q^{33} - 92P^4R^{28}Q^{33} - 168P^7R^{27}Q^{33} + \\
& 50P^{10}R^{26}Q^{33} + 240R^{30}Q^{32} + 204P^3R^{29}Q^{32} - 115P^6R^{28}Q^{32} - 44P^9R^{27}Q^{32} - 165P^{12}R^{26}Q^{32} - \\
& 25P^2R^{30}Q^{31} - 94P^5R^{29}Q^{31} + 214P^8R^{28}Q^{31} - 56P^{11}R^{27}Q^{31} - 138PR^{31}Q^{30} - 107P^4R^{30}Q^{30} + \\
& 72P^7R^{29}Q^{30} - 27P^{10}R^{28}Q^{30} + 254R^{32}Q^{29} - 124P^3R^{31}Q^{29} + 84P^6R^{30}Q^{29} + 38P^9R^{29}Q^{29} - \\
& 190P^{12}R^{28}Q^{29} + 122P^2R^{32}Q^{28} + 176P^5R^{31}Q^{28} + 74P^8R^{30}Q^{28} - 136P^{11}R^{29}Q^{28} - 246PR^{33}Q^{27} +
\end{aligned}$$



$$\begin{aligned}
& 123P^4R^{32}Q^{27} + 44P^7R^{31}Q^{27} - 126P^{10}R^{30}Q^{27} + 168R^{34}Q^{26} - 40P^3R^{33}Q^{26} - 98P^6R^{32}Q^{26} - \\
& 66P^9R^{31}Q^{26} + 178P^2R^{34}Q^{25} + 32P^5R^{33}Q^{25} + 8P^8R^{32}Q^{25} + 40P^{11}R^{31}Q^{25} + 96PR^{35}Q^{24} + \\
& 208P^4R^{34}Q^{24} - 20P^7R^{33}Q^{24} + 81P^{10}R^{32}Q^{24} + 255R^{36}Q^{23} - 72P^3R^{35}Q^{23} - 42P^6R^{34}Q^{23} + \\
& 96P^9R^{33}Q^{23} - 100P^{12}R^{32}Q^{23} - 201P^2R^{36}Q^{22} - 42P^5R^{35}Q^{22} - 38P^8R^{34}Q^{22} - 224P^{11}R^{33}Q^{22} - \\
& 146PR^{37}Q^{21} - 109P^4R^{36}Q^{21} - 84P^7R^{35}Q^{21} - 82P^{10}R^{34}Q^{21} + 186R^{38}Q^{20} + 112P^3R^{37}Q^{20} + \\
& 32P^6R^{36}Q^{20} - 124P^9R^{35}Q^{20} - 30P^{12}R^{34}Q^{20} + P^2R^{38}Q^{19} + 134P^5R^{37}Q^{19} + 120P^8R^{36}Q^{19} + \\
& 104P^{11}R^{35}Q^{19} - 54PR^{39}Q^{18} - 3P^4R^{38}Q^{18} + 76P^7R^{37}Q^{18} + 55P^{10}R^{36}Q^{18} + 82R^{40}Q^{17} + \\
& 144P^3R^{39}Q^{17} - 58P^6R^{38}Q^{17} - 188P^9R^{37}Q^{17} - 220P^{12}R^{36}Q^{17} + 88P^2R^{40}Q^{16} - 36P^5R^{39}Q^{16} + \\
& 66P^8R^{38}Q^{16} + 176P^{11}R^{37}Q^{16} + 48PR^{41}Q^{15} - 118P^4R^{40}Q^{15} + 128P^7R^{39}Q^{15} + 162P^{10}R^{38}Q^{15} + \\
& 170R^{42}Q^{14} + 80P^3R^{41}Q^{14} + 119P^6R^{40}Q^{14} - 108P^9R^{39}Q^{14} - 240P^{12}R^{38}Q^{14} - 68P^2R^{42}Q^{13} - \\
& 40P^5R^{41}Q^{13} - 45P^8R^{40}Q^{13} - 118PR^{43}Q^{12} - 189P^4R^{42}Q^{12} - 40P^7R^{41}Q^{12} + 66P^{10}R^{40}Q^{12} + \\
& 121R^{44}Q^{11} + 280P^3R^{43}Q^{11} + 24P^6R^{42}Q^{11} + 156P^9R^{41}Q^{11} - 240P^{12}R^{40}Q^{11} + 49P^2R^{44}Q^{10} + \\
& 88P^5R^{43}Q^{10} - 124P^8R^{42}Q^{10} - 200P^{11}R^{41}Q^{10} - 16PR^{45}Q^9 - 176P^4R^{44}Q^9 + 56P^7R^{43}Q^9 - \\
& 245P^{10}R^{42}Q^9 + 175R^{46}Q^8 + 8P^3R^{45}Q^8 - 35P^6R^{44}Q^8 - 22P^9R^{43}Q^8 + 11P^2R^{46}Q^7 + 46P^5R^{45}Q^7 - \\
& 141P^8R^{44}Q^7 + 52PR^{47}Q^6 + 52P^4R^{46}Q^6 - 32P^7R^{45}Q^6 + 189R^{48}Q^5 + 180P^3R^{47}Q^5 - \\
& 180P^6R^{46}Q^5 - 159P^2R^{48}Q^4 - 126P^5R^{47}Q^4 + 4PR^{49}Q^3 - 270P^4R^{48}Q^3 + 44R^{50}Q^2 - 56P^3R^{49}Q^2 - \\
& 174P^2R^{50}Q - 34PR^{51})
\end{aligned}$$

$$\begin{aligned}
& 12^{12}\vartheta^{12}(10Q^{71} + 23R^2Q^{68} + 10R^4Q^{65} + 31R^6Q^{62} + 44R^8Q^{59} + 11R^{10}Q^{56} + 32R^{12}Q^{53} + 3R^{14}Q^{50} + \\
& 23R^{16}Q^{47} + 30R^{18}Q^{44} + 26R^{20}Q^{41} + 50R^{22}Q^{38} + 45R^{24}Q^{35} + 23R^{26}Q^{32} + 39R^{28}Q^{29} + 5R^{32}Q^{23} + \\
& 31R^{34}Q^{20} + 11R^{36}Q^{17} + 12R^{38}Q^{14} + 12R^{40}Q^{11}) \equiv Q^{59}(Q^3 - R^2)^6 \pmod{59}
\end{aligned}$$

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$$p_{22}(61t + 55) \equiv 0 \pmod{61}$$

$$\begin{aligned}
& 12\vartheta(Q^{14} + 16P^9Q^{13} + 52R^3Q^{13} + 8P^3R^2Q^{13} + 56P^6RQ^{13} + 57P^2R^3Q^{12} + 55P^5R^2Q^{12} + \\
& 5P^8RQ^{12} + 26PR^4Q^{11} + 44P^4R^3Q^{11} + 52P^7R^2Q^{11} + 25P^3R^4Q^{10} + 20P^6R^3Q^{10} + 48P^9R^2Q^{10} + \\
& 21P^2R^5Q^9 + 6P^5R^4Q^9 + 43P^8R^3Q^9 + 45PR^6Q^8 + 33P^4R^5Q^8 + 25P^7R^4Q^8 + 27R^7Q^7 + \\
& 15P^3R^6Q^7 + 11P^6R^5Q^7 + 26P^9R^4Q^7 + 20P^2R^7Q^6 + 12P^5R^6Q^6 + 48P^8R^5Q^6 + 6PR^8Q^5 + \\
& 54P^4R^7Q^5 + 7P^7R^6Q^5 + 50R^9Q^4 + 10P^3R^8Q^4 + 58P^6R^7Q^4 + 15P^9R^6Q^4 + 5P^2R^9Q^3 + \\
& 6P^8R^7Q^3 + 46PR^{10}Q^2 + 15P^4R^9Q^2 + 48P^7R^8Q^2 + 15R^{11}Q + 2P^3R^{10}Q + 15P^6R^9Q + 18P^9R^8Q + \\
& 36P^2R^{11} + 15P^5R^{10} + 11P^8R^9) \\
& = (Q^3 - R^2)^6 - 61(4Q^{18} - 15P^2Q^{17} - 20P^4Q^{16} - 16PRQ^{16} - 32P^6Q^{15} + 56R^2Q^{15} + \\
& 20P^3RQ^{15} - 24P^8Q^{14} - 36P^2R^2Q^{14} + 18P^5RQ^{14} - 16P^{10}Q^{13} + 2PR^3Q^{13} + 39P^4R^2Q^{13} - \\
& 24P^7RQ^{13} + 45R^4Q^{12} - 44P^3R^3Q^{12} + P^6R^2Q^{12} + 18P^9RQ^{12} + 27P^2R^4Q^{11} - 30P^8R^2Q^{11} + \\
& 46PR^5Q^{10} + 21P^4R^4Q^{10} + 32P^7R^3Q^{10} - 48P^{10}R^2Q^{10} + 19R^6Q^9 + 4P^3R^5Q^9 + 15P^6R^4Q^9 - \\
& 2P^9R^3Q^9 - 24P^2R^6Q^8 - 24P^5R^5Q^8 + 27P^8R^4Q^8 - 2PR^7Q^7 + 39P^4R^6Q^7 + 12P^7R^5Q^7 - \\
& 26P^{10}R^4Q^7 + 57R^8Q^6 - 4P^3R^7Q^6 + 33P^6R^6Q^6 - 28P^9R^5Q^6 + 6P^2R^8Q^5 - 48P^5R^7Q^5 + \\
& 18P^8R^6Q^5 - 10PR^9Q^4 + 20P^4R^8Q^4 - 20P^7R^7Q^4 - 15P^{10}R^6Q^4 + 30R^{10}Q^3 + 34P^6R^8Q^3 + \\
& 12P^9R^7Q^3 - 12P^2R^{10}Q^2 - 36P^8R^8Q^2 - 10PR^{11}Q + P^4R^{10}Q - 8P^7R^9Q - 18P^{10}R^8Q + R^{12} - \\
& 40P^3R^{11} - 15P^6R^{10} - 10P^9R^9)
\end{aligned}$$

$$12^{10}\vartheta^{10}(56qq^13 + 46qq^10rr^2 + 30qq^7rr^4 + 22qq^4rr^6 + 2qqr^8) \equiv (Q^3 - R^2)^6 \pmod{61}$$

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$$p_{10}(67t + 61) \equiv 0 \pmod{67}$$

$$\begin{aligned}
& 12\vartheta(3PQ^{17} + 41P^3Q^{16} + 44RQ^{16} + 14P^2RQ^{15} + 14PR^2Q^{14} + 59R^3Q^{13} + 17P^3R^2Q^{13} + \\
& 60P^2R^3Q^{12} + 6PR^4Q^{11} + 2R^5Q^{10} + 55P^3R^4Q^{10} + 53P^2R^5Q^9 + 42PR^6Q^8 + 55R^7Q^7 + 39P^3R^6Q^7 + \\
& 16P^2R^7Q^6 + 32PR^8Q^5 + 19R^9Q^4 + 39P^3R^8Q^4 + 13P^2R^9Q^3 + 20PR^{10}Q^2 + 50R^{11}Q + 49P^3R^{10}Q +
\end{aligned}$$

$$\begin{aligned}
& 62P^2R^{11}) \\
& = (Q^3 - R^2)^6 - 67(4Q^{18} - 41P^4Q^{16} - 40PRQ^{16} + 58R^2Q^{15} + 28P^3RQ^{15} + 15P^2R^2Q^{14} - \\
& 46PR^3Q^{13} - 17P^4R^2Q^{13} + 47R^4Q^{12} - 28P^3R^3Q^{12} + 63P^2R^4Q^{11} + 26PR^5Q^{10} - 55P^4R^4Q^{10} + \\
& 36R^6Q^9 - 3P^2R^6Q^8 - 14PR^7Q^7 - 39P^4R^6Q^7 + 39R^8Q^6 + 28P^3R^7Q^6 - 15P^2R^8Q^5 + 8PR^9Q^4 - \\
& 39P^4R^8Q^4 + 54R^{10}Q^3 + 40P^3R^9Q^3 + 45P^2R^{10}Q^2 - 48PR^{11}Q - 49P^4R^{10}Q + 3R^{12} - 60P^3R^{11}) \\
& 12^4\vartheta^4(49Q^{16} + 53R^2Q^{13} + 2R^4Q^{10} + 27R^6Q^7 + 27R^8Q^4 + 3R^{10}Q) \equiv (Q^3 - R^2)^6 \pmod{67}
\end{aligned}$$

$$p_6(67t + 50) \equiv 0 \pmod{67}$$

$$\begin{aligned}
& 12\vartheta(38PQ^{50} + 27RQ^{49} + 11PR^2Q^{47} + 19R^3Q^{46} + 57PR^4Q^{44} + 49R^5Q^{43} + 58R^7Q^{40} + 4PR^8Q^{38} + \\
& 52R^9Q^{37} + 22PR^{10}Q^{35} + 56R^{11}Q^{34} + 25PR^{12}Q^{32} + 38R^{13}Q^{31} + 15PR^{14}Q^{29} + 5R^{15}Q^{28} + \\
& 58PR^{16}Q^{26} + 42R^{17}Q^{25} + 50PR^{18}Q^{23} + 2R^{19}Q^{22} + 3PR^{20}Q^{20} + 33R^{21}Q^{19} + 3PR^{22}Q^{17} + \\
& 4R^{23}Q^{16} + 47PR^{24}Q^{14} + 34R^{25}Q^{13} + 22PR^{26}Q^{11} + 45R^{27}Q^{10} + 30PR^{28}Q^8 + 21R^{29}Q^7 + \\
& 16PR^{30}Q^5 + 58R^{31}Q^4 + 44PR^{32}Q^2 + 17R^{33}Q) \\
& = (Q^3 - R^2)^{17} - 67(3Q^{51} - 114P^2Q^{50} + 34PRQ^{49} + 84R^2Q^{48} - 33P^2R^2Q^{47} - \\
& 6PR^3Q^{46} + 77R^4Q^{45} - 171P^2R^4Q^{44} + 2PR^5Q^{43} + 152R^6Q^{42} - 172PR^7Q^{40} + 216R^8Q^{39} - \\
& 12P^2R^8Q^{38} - 128PR^9Q^{37} + 78R^{10}Q^{36} - 66P^2R^{10}Q^{35} - 96PR^{11}Q^{34} + 343R^{12}Q^{33} - 75P^2R^{12}Q^{32} - \\
& 48PR^{13}Q^{31} - 213R^{14}Q^{30} - 45P^2R^{14}Q^{29} + 94PR^{15}Q^{28} + 436R^{16}Q^{27} - 174P^2R^{16}Q^{26} + \\
& 44PR^{17}Q^{25} - 296R^{18}Q^{24} - 150P^2R^{18}Q^{23} + 68PR^{19}Q^{22} + 355R^{20}Q^{21} - 9P^2R^{20}Q^{20} - 90PR^{21}Q^{19} - \\
& 139R^{22}Q^{18} - 9P^2R^{22}Q^{17} + 92PR^{23}Q^{16} + 173R^{24}Q^{15} - 141P^2R^{24}Q^{14} - 12PR^{25}Q^{13} + 100R^{26}Q^{12} - \\
& 66P^2R^{26}Q^{11} - 46PR^{27}Q^{10} + 92R^{28}Q^9 - 90P^2R^{28}Q^8 - 6PR^{29}Q^7 + 168R^{30}Q^6 - 48P^2R^{30}Q^5 - \\
& 44PR^{31}Q^4 + 65R^{32}Q^3 - 132P^2R^{32}Q^2 - 46PR^{33}Q + R^{34})
\end{aligned}$$

$$\begin{aligned}
& 12^2\vartheta^2(29Q^{50} + 56R^2Q^{47} + 10R^4Q^{44} + 63R^8Q^{38} + 45R^{10}Q^{35} + 42R^{12}Q^{32} + 52R^{14}Q^{29} + \\
& 9R^{16}Q^{26} + 17R^{18}Q^{23} + 64R^{20}Q^{20} + 64R^{22}Q^{17} + 20R^{24}Q^{14} + 45R^{26}Q^{11} + 37R^{28}Q^8 + 51R^{30}Q^5 + \\
& 23R^{32}Q^2) \equiv (Q^3 - R^2)^{17} \pmod{67}
\end{aligned}$$

$$p_4(71t + 59) \equiv 0 \pmod{71}$$

$$\begin{aligned}
& 12\vartheta(59RQ^{34} + 44R^3Q^{31} + 10R^5Q^{28} + 9R^7Q^{25} + 57R^9Q^{22} + 7R^{11}Q^{19} + 5R^{13}Q^{16} + 51R^{15}Q^{13} + \\
& 13R^{17}Q^{10} + 31R^{19}Q^7 + 14R^{21}Q^4 + 53R^{23}Q) \\
& = (Q^3 - R^2)^{12} - 71(5Q^{36} - 118PRQ^{34} + 124R^2Q^{33} - 88PR^3Q^{31} + 82R^4Q^{30} - 20PR^5Q^{28} + \\
& 18R^6Q^{27} - 18PR^7Q^{25} + 63R^8Q^{24} - 114PR^9Q^{22} + 66R^{10}Q^{21} - 14PR^{11}Q^{19} + 26R^{12}Q^{18} - \\
& 10PR^{13}Q^{16} + 58R^{14}Q^{15} - 102PR^{15}Q^{13} + 63R^{16}Q^{12} - 26PR^{17}Q^{10} + 54R^{18}Q^9 - 62PR^{19}Q^7 + \\
& 38R^{20}Q^6 - 28PR^{21}Q^4 + 106R^{22}Q^3 - 106PR^{23}Q + 3R^{24})
\end{aligned}$$

$$p_6(71t + 53) \equiv 0 \pmod{71}$$

$$\begin{aligned}
& 12\vartheta(60PQ^{53} + 49RQ^{52} + 15PR^2Q^{50} + 69R^3Q^{49} + 11PR^4Q^{47} + 36R^5Q^{46} + 54PR^6Q^{44} + \\
& 43R^7Q^{43} + 44PR^8Q^{41} + 58R^9Q^{40} + 44PR^{10}Q^{38} + 66R^{11}Q^{37} + 52PR^{12}Q^{35} + 53R^{13}Q^{34} + \\
& 23PR^{14}Q^{32} + 50R^{15}Q^{31} + 66PR^{16}Q^{29} + R^{17}Q^{28} + 56PR^{18}Q^{26} + 4R^{19}Q^{25} + 58PR^{20}Q^{23} + \\
& 30R^{21}Q^{22} + 62PR^{22}Q^{20} + 68R^{23}Q^{19} + 39PR^{24}Q^{17} + 55R^{25}Q^{16} + 63PR^{26}Q^{14} + 54R^{27}Q^{13} + \\
& 63PR^{28}Q^{11} + 21R^{29}Q^{10} + 64PR^{30}Q^8 + 69R^{31}Q^7 + 30PR^{32}Q^5 + 70R^{33}Q^4 + 51PR^{34}Q^2 + 53R^{35}Q) \\
& = (Q^3 - R^2)^{18} - 71(5Q^{54} - 180P^2Q^{53} + 34PRQ^{52} + 161R^2Q^{51} - 45P^2R^2Q^{50} - \\
& 162PR^3Q^{49} + 208R^4Q^{48} - 33P^2R^4Q^{47} - 52PR^5Q^{46} + 108R^6Q^{45} - 162P^2R^6Q^{44} + 34PR^7Q^{43} + \\
& 192R^8Q^{42} - 132P^2R^8Q^{41} - 36PR^9Q^{40} + 72R^{10}Q^{39} - 132P^2R^{10}Q^{38} - 52PR^{11}Q^{37} + 458R^{12}Q^{36} - \\
& 156P^2R^{12}Q^{35} - 30PR^{13}Q^{34} - 283R^{14}Q^{33} - 69P^2R^{14}Q^{32} - 20PR^{15}Q^{31} + 706R^{16}Q^{30} - \\
& 198P^2R^{16}Q^{29} + 190PR^{17}Q^{28} - 676R^{18}Q^{27} - 168P^2R^{18}Q^{26} + 168PR^{19}Q^{25} + 676R^{20}Q^{24} -
\end{aligned}$$

$$174P^2R^{20}Q^{23} + 100PR^{21}Q^{22} - 278R^{22}Q^{21} - 186P^2R^{22}Q^{20} - 56PR^{23}Q^{19} + 451R^{24}Q^{18} - 117P^2R^{24}Q^{17} + 10PR^{25}Q^{16} + 53R^{26}Q^{15} - 189P^2R^{26}Q^{14} + 36PR^{27}Q^{13} + 135R^{28}Q^{12} - 189P^2R^{28}Q^{11} + 138PR^{29}Q^{10} + 182R^{30}Q^9 - 192P^2R^{30}Q^8 - 98PR^{31}Q^7 + 225R^{32}Q^6 - 90P^2R^{32}Q^5 - 56PR^{33}Q^4 + 173R^{34}Q^3 - 153P^2R^{34}Q^2 - 154PR^{35}Q + 3R^{36})$$

$$12^2\vartheta^2(11Q^{53} + 56R^2Q^{50} + 60R^4Q^{47} + 17R^6Q^{44} + 27R^8Q^{41} + 27R^{10}Q^{38} + 19R^{12}Q^{35} + 48R^{14}Q^{32} + 5R^{16}Q^{29} + 15R^{18}Q^{26} + 13R^{20}Q^{23} + 9R^{22}Q^{20} + 32R^{24}Q^{17} + 8R^{26}Q^{14} + 8R^{28}Q^{11} + 7R^{30}Q^8 + 41R^{32}Q^5 + 20R^{34}Q^2) \equiv (Q^3 - R^2)^{18} \pmod{71}$$

$$p_8(71t + 47) \equiv 0 \pmod{71}$$

$$12\vartheta(68PQ^{71} + 24RQ^{70} + 35P^2RQ^{69} + 10PR^2Q^{68} + 14R^3Q^{67} + 24P^2R^3Q^{66} + 16PR^4Q^{65} + 64R^5Q^{64} + 26P^2R^5Q^{63} + 68PR^6Q^{62} + 25R^7Q^{61} + 62P^2R^7Q^{60} + 11PR^8Q^{59} + 49R^9Q^{58} + 31P^2R^9Q^{57} + 52PR^{10}Q^{56} + 17R^{11}Q^{55} + 40P^2R^{11}Q^{54} + 21PR^{12}Q^{53} + 64R^{13}Q^{52} + 67P^2R^{13}Q^{51} + 23PR^{14}Q^{50} + 22R^{15}Q^{49} + 18P^2R^{15}Q^{48} + 35PR^{16}Q^{47} + 39R^{17}Q^{46} + 66P^2R^{17}Q^{45} + 3PR^{18}Q^{44} + 42R^{19}Q^{43} + 21P^2R^{19}Q^{42} + 35PR^{20}Q^{41} + 38R^{21}Q^{40} + 63P^2R^{21}Q^{39} + 11PR^{22}Q^{38} + 68R^{23}Q^{37} + 58P^2R^{23}Q^{36} + 26PR^{24}Q^{35} + 46R^{25}Q^{34} + 42P^2R^{25}Q^{33} + 55PR^{26}Q^{32} + 18R^{27}Q^{31} + 6P^2R^{27}Q^{30} + 36PR^{28}Q^{29} + 46R^{29}Q^{28} + 23P^2R^{29}Q^{27} + 52PR^{30}Q^{26} + 23R^{31}Q^{25} + 48P^2R^{31}Q^{24} + 30PR^{32}Q^{23} + 50R^{33}Q^{22} + 7P^2R^{33}Q^{21} + 21PR^{34}Q^{20} + 37R^{35}Q^{19} + 47P^2R^{35}Q^{18} + 25PR^{36}Q^{17} + 42R^{37}Q^{16} + 37P^2R^{37}Q^{15} + 53PR^{38}Q^{14} + 61R^{39}Q^{13} + 5P^2R^{39}Q^{12} + 52PR^{40}Q^{11} + 2R^{41}Q^{10} + 61P^2R^{41}Q^9 + 53PR^{42}Q^8 + R^{43}Q^7 + 36P^2R^{43}Q^6 + 67PR^{44}Q^5 + 62R^{45}Q^4 + 62P^2R^{45}Q^3 + 61PR^{46}Q^2 + 53R^{47}Q + 22P^2R^{47})$$

$$= (Q^3 - R^2)^{24} - 71(3Q^{72} - 270P^2Q^{71} + 178PRQ^{70} + 98R^2Q^{69} - 140P^3RQ^{69} + 102P^2R^2Q^{68} - 12PR^3Q^{67} + 84R^4Q^{66} - 96P^3R^3Q^{66} + 36P^2R^4Q^{65} - 164PR^5Q^{64} + 218R^6Q^{63} - 104P^3R^5Q^{63} - 144P^2R^6Q^{62} + 146PR^7Q^{61} + 273R^8Q^{60} - 248P^3R^7Q^{60} + 189P^2R^8Q^{59} - 116PR^9Q^{58} - 422R^{10}Q^{57} - 124P^3R^9Q^{57} - 72P^2R^{10}Q^{56} + 118PR^{11}Q^{55} + 2019R^{12}Q^{54} - 160P^3R^{11}Q^{54} + 111P^2R^{12}Q^{53} - 166PR^{13}Q^{52} - 4659R^{14}Q^{51} - 268P^3R^{13}Q^{51} + 123P^2R^{14}Q^{50} + 24PR^{15}Q^{49} + 10476R^{16}Q^{48} - 72P^3R^{15}Q^{48} + 3P^2R^{16}Q^{47} - 58PR^{17}Q^{46} - 18247R^{18}Q^{45} - 264P^3R^{17}Q^{45} + 189P^2R^{18}Q^{44} - 102PR^{19}Q^{43} + 27793R^{20}Q^{42} - 84P^3R^{19}Q^{42} + 21P^2R^{20}Q^{41} - 50PR^{21}Q^{40} - 34939R^{22}Q^{39} - 252P^3R^{21}Q^{39} + 207P^2R^{22}Q^{38} - 196PR^{23}Q^{37} + 38326R^{24}Q^{36} - 232P^3R^{23}Q^{36} + 102P^2R^{24}Q^{35} - 12PR^{25}Q^{34} - 35027R^{26}Q^{33} - 168P^3R^{25}Q^{33} - 129P^2R^{26}Q^{32} + 112PR^{27}Q^{31} + 27768R^{28}Q^{30} - 24P^3R^{27}Q^{30} - 78P^2R^{28}Q^{29} + 6PR^{29}Q^{28} - 18282R^{30}Q^{27} - 92P^3R^{29}Q^{27} - 48P^2R^{30}Q^{26} + 66PR^{31}Q^{25} + 10531R^{32}Q^{24} - 192P^3R^{31}Q^{24} - 36P^2R^{32}Q^{23} - 102PR^{33}Q^{22} - 4703R^{34}Q^{21} - 28P^3R^{33}Q^{21} + 63P^2R^{34}Q^{20} - 48PR^{35}Q^{19} + 2067R^{36}Q^{18} - 188P^3R^{35}Q^{18} + 63P^2R^{36}Q^{17} + 26PR^{37}Q^{16} - 359R^{38}Q^{15} - 148P^3R^{37}Q^{15} - 165P^2R^{38}Q^{14} - 28PR^{39}Q^{13} + 202R^{40}Q^{12} - 20P^3R^{39}Q^{12} + 6P^2R^{40}Q^{11} + 214PR^{41}Q^{10} - 23R^{42}Q^9 - 244P^3R^{41}Q^9 - 51P^2R^{42}Q^8 + 270PR^{43}Q^7 + 241R^{44}Q^6 - 144P^3R^{43}Q^6 - 21P^2R^{44}Q^5 + 8PR^{45}Q^4 + 225R^{46}Q^3 - 248P^3R^{45}Q^3 - 147P^2R^{46}Q^2 - 206PR^{47}Q + 3R^{48} - 88P^3R^{47})$$

$$12^3\vartheta^3(53RQ^{69} + 12R^3Q^{66} + 13R^5Q^{63} + 31R^7Q^{60} + 51R^9Q^{57} + 20R^{11}Q^{54} + 69R^{13}Q^{51} + 9R^{15}Q^{48} + 33R^{17}Q^{45} + 46R^{19}Q^{42} + 67R^{21}Q^{39} + 29R^{23}Q^{36} + 21R^{25}Q^{33} + 3R^{27}Q^{30} + 47R^{29}Q^{27} + 24R^{31}Q^{24} + 39R^{33}Q^{21} + 59R^{35}Q^{18} + 54R^{37}Q^{15} + 38R^{39}Q^{12} + 66R^{41}Q^9 + 18R^{43}Q^6 + 31R^{45}Q^3 + 11R^{47}) \equiv (Q^3 - R^2)^{24} \pmod{71}$$

$$p_{10}(71t + 41) \equiv 0 \pmod{71}$$

$$12\vartheta(46PQ^{89} + 9P^3Q^{88} + 4RQ^{88} + 70P^2RQ^{87} + 21PR^2Q^{86} + 13R^3Q^{85} + 14P^3R^2Q^{85} + 43P^2R^3Q^{84} + 55PR^4Q^{83} + 2R^5Q^{82} + 49P^3R^4Q^{82} + 26P^2R^5Q^{81} + 24PR^6Q^{80} + 23R^7Q^{79} + 44P^2R^7Q^{78} + 60PR^8Q^{77} + 5R^9Q^{76} + 66P^3R^8Q^{76} + 52P^2R^9Q^{75} + 68PR^{10}Q^{74} + 46R^{11}Q^{73} + 12P^3R^{10}Q^{73} + 47P^2R^{11}Q^{72} + 9PR^{12}Q^{71} + 27R^{13}Q^{70} + 22P^3R^{12}Q^{70} + 17P^2R^{13}Q^{69} + 20PR^{14}Q^{68} +$$

$$\begin{aligned}
& 13R^{15}Q^{67} + 19P^3R^{14}Q^{67} + 10P^2R^{15}Q^{66} + 70PR^{16}Q^{65} + 65R^{17}Q^{64} + 58P^3R^{16}Q^{64} + 42P^2R^{17}Q^{63} + \\
& 58PR^{18}Q^{62} + 66R^{19}Q^{61} + 22P^3R^{18}Q^{61} + 6P^2R^{19}Q^{60} + 58PR^{20}Q^{59} + 26R^{21}Q^{58} + 63P^3R^{20}Q^{58} + \\
& 28P^2R^{21}Q^{57} + 46PR^{22}Q^{56} + 18R^{23}Q^{55} + 53P^3R^{22}Q^{55} + 33P^2R^{23}Q^{54} + 25PR^{24}Q^{53} + 66R^{25}Q^{52} + \\
& 44P^3R^{24}Q^{52} + 4P^2R^{25}Q^{51} + 61PR^{26}Q^{50} + 47R^{27}Q^{49} + 16P^3R^{26}Q^{49} + 41P^2R^{27}Q^{48} + 19R^{29}Q^{46} + \\
& 53P^3R^{28}Q^{46} + 53P^2R^{29}Q^{45} + 23PR^{30}Q^{44} + 2R^{31}Q^{43} + 68P^3R^{30}Q^{43} + 41P^2R^{31}Q^{42} + 51PR^{32}Q^{41} + \\
& 58R^{33}Q^{40} + 58P^3R^{32}Q^{40} + 38P^2R^{33}Q^{39} + 27PR^{34}Q^{38} + 15R^{35}Q^{37} + 25P^3R^{34}Q^{37} + 66P^2R^{35}Q^{36} + \\
& 23PR^{36}Q^{35} + 55R^{37}Q^{34} + 43P^3R^{36}Q^{34} + 55P^2R^{37}Q^{33} + 2PR^{38}Q^{32} + 21R^{39}Q^{31} + 54P^3R^{38}Q^{31} + \\
& 66P^2R^{39}Q^{30} + 9PR^{40}Q^{29} + 15R^{41}Q^{28} + 70P^3R^{40}Q^{28} + 64P^2R^{41}Q^{27} + 33PR^{42}Q^{26} + 60R^{43}Q^{25} + \\
& 30P^3R^{42}Q^{25} + 21P^2R^{43}Q^{24} + 44PR^{44}Q^{23} + 39R^{45}Q^{22} + 46P^3R^{44}Q^{22} + 36P^2R^{45}Q^{21} + \\
& 30PR^{46}Q^{20} + 54R^{47}Q^{19} + 40P^3R^{46}Q^{19} + 51P^2R^{47}Q^{18} + 54PR^{48}Q^{17} + 10R^{49}Q^{16} + 16P^3R^{48}Q^{16} + \\
& 8P^2R^{49}Q^{15} + 11PR^{50}Q^{14} + 16R^{51}Q^{13} + 43P^3R^{50}Q^{13} + 54P^2R^{51}Q^{12} + 57PR^{52}Q^{11} + 24R^{53}Q^{10} + \\
& 59P^3R^{52}Q^{10} + 66P^2R^{53}Q^9 + 21PR^{54}Q^8 + 16R^{55}Q^7 + 3P^3R^{54}Q^7 + 59PR^{56}Q^5 + 67R^{57}Q^4 + \\
& 53P^3R^{56}Q^4 + 25P^2R^{57}Q^3 + 5PR^{58}Q^2 + 53R^{59}Q + 6P^3R^{58}Q + 24P^2R^{59}) \\
& = (Q^3 - R^2)^{30} - 71(Q^{90} - 225P^2Q^{89} - 45P^4Q^{88} + 216PRQ^{88} + 23R^2Q^{87} - 304P^3RQ^{87} + \\
& 249P^2R^2Q^{86} + 56PR^3Q^{85} - 70P^4R^2Q^{85} + 70R^4Q^{84} - 132P^3R^3Q^{84} - 60P^2R^4Q^{83} + 260PR^5Q^{82} - \\
& 245P^4R^4Q^{82} - 34R^6Q^{81} + 96P^3R^5Q^{81} + 24P^2R^6Q^{80} + 34PR^7Q^{79} + 493R^8Q^{78} - 176P^3R^7Q^{78} - \\
& 66P^2R^8Q^{77} + 294PR^9Q^{76} - 330P^4R^8Q^{76} - 1942R^{10}Q^{75} + 32P^3R^9Q^{75} - 78P^2R^{10}Q^{74} + \\
& 62PR^{11}Q^{73} - 60P^4R^{10}Q^{73} + 8582R^{12}Q^{72} - 164P^3R^{11}Q^{72} + 165P^2R^{12}Q^{71} - 76PR^{13}Q^{70} - \\
& 110P^4R^{12}Q^{70} - 28550R^{14}Q^{69} + 24P^3R^{13}Q^{69} - 21P^2R^{14}Q^{68} + 106PR^{15}Q^{67} - 95P^4R^{14}Q^{67} + \\
& 82579R^{16}Q^{66} + 100P^3R^{15}Q^{66} - 252P^2R^{16}Q^{65} + 18PR^{17}Q^{64} - 290P^4R^{16}Q^{64} - 201168R^{18}Q^{63} + \\
& 32P^3R^{17}Q^{63} - 132P^2R^{18}Q^{62} - 32PR^{19}Q^{61} - 110P^4R^{18}Q^{61} + 423443R^{20}Q^{60} + 152P^3R^{19}Q^{60} - \\
& 219P^2R^{20}Q^{59} + 148PR^{21}Q^{58} - 315P^4R^{20}Q^{58} - 769278R^{22}Q^{57} + 164P^3R^{21}Q^{57} - 75P^2R^{22}Q^{56} + \\
& 106PR^{23}Q^{55} - 265P^4R^{22}Q^{55} + 1218410R^{24}Q^{54} + 88P^3R^{23}Q^{54} - 15P^2R^{24}Q^{53} - 124PR^{25}Q^{52} - \\
& 220P^4R^{24}Q^{52} - 1686457R^{26}Q^{51} + 144P^3R^{25}Q^{51} - 201P^2R^{26}Q^{50} - 64PR^{27}Q^{49} - 80P^4R^{26}Q^{49} + \\
& 2048383R^{28}Q^{48} - 36P^3R^{27}Q^{48} + 243P^2R^{28}Q^{47} - 36PR^{29}Q^{46} - 265P^4R^{28}Q^{46} - 2184699R^{30}Q^{45} + \\
& 44P^3R^{29}Q^{45} + 129P^2R^{30}Q^{44} + 186PR^{31}Q^{43} - 340P^4R^{30}Q^{43} + 2048374R^{32}Q^{42} + 116P^3R^{31}Q^{42} - \\
& 51P^2R^{32}Q^{41} - 96PR^{33}Q^{40} - 290P^4R^{32}Q^{40} - 1686583R^{34}Q^{39} + 12P^3R^{33}Q^{39} + 144P^2R^{34}Q^{38} + \\
& 54PR^{35}Q^{37} - 125P^4R^{34}Q^{37} + 1218418R^{36}Q^{36} - 148P^3R^{35}Q^{36} + 192P^2R^{36}Q^{35} - 224PR^{37}Q^{34} - \\
& 215P^4R^{36}Q^{34} - 769224R^{38}Q^{33} - 20P^3R^{37}Q^{33} + 312P^2R^{38}Q^{32} - 70PR^{39}Q^{31} - 270P^4R^{38}Q^{31} + \\
& 423258R^{40}Q^{30} + 291P^2R^{40}Q^{29} + 58PR^{41}Q^{28} - 350P^4R^{40}Q^{28} - 201267R^{42}Q^{27} - 104P^3R^{41}Q^{27} + \\
& 9P^2R^{42}Q^{26} - 90PR^{43}Q^{25} - 150P^4R^{42}Q^{25} + 82669R^{44}Q^{24} + 108P^3R^{43}Q^{24} - 54P^2R^{44}Q^{23} - \\
& 22PR^{45}Q^{22} - 230P^4R^{44}Q^{22} - 28410R^{46}Q^{21} + 32P^3R^{45}Q^{21} + 96P^2R^{46}Q^{20} - 18PR^{47}Q^{19} - \\
& 200P^4R^{46}Q^{19} + 8463R^{48}Q^{18} - 148P^3R^{47}Q^{18} - 186P^2R^{48}Q^{17} + 48PR^{49}Q^{16} - 80P^4R^{48}Q^{16} - \\
& 1929R^{50}Q^{15} + 156P^3R^{49}Q^{15} + 186P^2R^{50}Q^{14} + 180PR^{51}Q^{13} - 215P^4R^{50}Q^{13} + 506R^{52}Q^{12} + \\
& 20P^3R^{51}Q^{12} + 48P^2R^{52}Q^{11} + 12PR^{53}Q^{10} - 295P^4R^{52}Q^{10} + 31R^{54}Q^9 - 284P^3R^{53}Q^9 - \\
& 72P^2R^{54}Q^8 + 208PR^{55}Q^7 - 15P^4R^{54}Q^7 + 336R^{56}Q^6 + 252P^3R^{55}Q^6 - 174P^2R^{56}Q^5 - \\
& 296PR^{57}Q^4 - 265P^4R^{56}Q^4 + 279R^{58}Q^3 - 84P^3R^{57}Q^3 + 99P^2R^{58}Q^2 - 266PR^{59}Q - 30P^4R^{58}Q + \\
& 3R^{60} - 120P^3R^{59})
\end{aligned}$$

$$\begin{aligned}
& 12^4\vartheta^4(34Q^{88} + 45R^2Q^{85} + 51R^4Q^{82} + 60R^8Q^{76} + 69R^{10}Q^{73} + 20R^{12}Q^{70} + 56R^{14}Q^{67} + 14R^{16}Q^{64} + \\
& 20R^{18}Q^{61} + 25R^{20}Q^{58} + 3R^{22}Q^{55} + 40R^{24}Q^{52} + 21R^{26}Q^{49} + 3R^{28}Q^{46} + 36R^{30}Q^{43} + 14R^{32}Q^{40} + \\
& 55R^{34}Q^{37} + 52R^{36}Q^{34} + 62R^{38}Q^{31} + 12R^{40}Q^{28} + 66R^{42}Q^{25} + 16R^{44}Q^{22} + 17R^{46}Q^{19} + 21R^{48}Q^{16} + \\
& 52R^{50}Q^{13} + 2R^{52}Q^{10} + 35R^{54}Q^7 + 3R^{56}Q^4 + 70R^{58}Q) \equiv (Q^3 - R^2)^{30} \pmod{71}
\end{aligned}$$

$$p_{14}(71t + 29) \equiv 0 \pmod{71}$$

$$\begin{aligned}
& 12\vartheta(37PQ^{125} + 40P^3Q^{124} + 41RQ^{124} + 38P^5Q^{123} + 52P^2RQ^{123} + 11PR^2Q^{122} + 29P^4RQ^{122} + \\
& 4R^3Q^{121} + 54P^3R^2Q^{121} + 36P^5R^2Q^{120} + 2PR^4Q^{119} + 46P^4R^3Q^{119} + 70R^5Q^{118} + 63P^3R^4Q^{118} + \\
& 20P^2R^5Q^{117} + 57P^5R^4Q^{117} + 65PR^6Q^{116} + 34P^4R^5Q^{116} + 21R^7Q^{115} + 16P^3R^6Q^{115} +
\end{aligned}$$

$$\begin{aligned}
& 29P^2R^7Q^{114} + 37P^5R^6Q^{114} + 22PR^8Q^{113} + 18P^4R^7Q^{113} + 62R^9Q^{112} + 23P^3R^8Q^{112} + \\
& 25P^2R^9Q^{111} + 66P^5R^8Q^{111} + 9PR^{10}Q^{110} + 15P^4R^9Q^{110} + 44R^{11}Q^{109} + 64P^3R^{10}Q^{109} + \\
& 36P^2R^{11}Q^{108} + 55P^5R^{10}Q^{108} + 22PR^{12}Q^{107} + 43P^4R^{11}Q^{107} + 12R^{13}Q^{106} + 6P^3R^{12}Q^{106} + \\
& 40P^2R^{13}Q^{105} + 68P^5R^{12}Q^{105} + 6PR^{14}Q^{104} + 22P^4R^{13}Q^{104} + 40R^{15}Q^{103} + 58P^3R^{14}Q^{103} + \\
& P^2R^{15}Q^{102} + 44P^5R^{14}Q^{102} + 16PR^{16}Q^{101} + 36P^4R^{15}Q^{101} + 68R^{17}Q^{100} + 24P^3R^{16}Q^{100} + \\
& 53P^2R^{17}Q^{99} + 53P^5R^{16}Q^{99} + 12PR^{18}Q^{98} + 30P^4R^{17}Q^{98} + 48R^{19}Q^{97} + 16P^3R^{18}Q^{97} + \\
& 70P^2R^{19}Q^{96} + 15P^5R^{18}Q^{96} + 35PR^{20}Q^{95} + 64P^4R^{19}Q^{95} + 52R^{21}Q^{94} + 39P^3R^{20}Q^{94} + \\
& 50P^2R^{21}Q^{93} + 33P^5R^{20}Q^{93} + 36PR^{22}Q^{92} + 30P^4R^{21}Q^{92} + 54R^{23}Q^{91} + 15P^3R^{22}Q^{91} + \\
& 28P^2R^{23}Q^{90} + 46P^5R^{22}Q^{90} + 15PR^{24}Q^{89} + 41P^4R^{23}Q^{89} + 60R^{25}Q^{88} + 70P^3R^{24}Q^{88} + \\
& 17P^2R^{25}Q^{87} + 12P^5R^{24}Q^{87} + 23PR^{26}Q^{86} + 67P^4R^{25}Q^{86} + 20R^{27}Q^{85} + 35P^3R^{26}Q^{85} + \\
& 55P^2R^{27}Q^{84} + 26P^5R^{26}Q^{84} + 23PR^{28}Q^{83} + 9P^4R^{27}Q^{83} + 27R^{29}Q^{82} + 47P^3R^{28}Q^{82} + \\
& 40P^2R^{29}Q^{81} + 33P^5R^{28}Q^{81} + 49PR^{30}Q^{80} + 22P^4R^{29}Q^{80} + 31R^{31}Q^{79} + 66P^3R^{30}Q^{79} + \\
& 12P^2R^{31}Q^{78} + 63P^5R^{30}Q^{78} + 44P^4R^{31}Q^{77} + 7R^{33}Q^{76} + 43P^3R^{32}Q^{76} + 31P^2R^{33}Q^{75} + \\
& 65P^5R^{32}Q^{75} + 3PR^{34}Q^{74} + 39P^4R^{33}Q^{74} + 14R^{35}Q^{73} + 43P^2R^{35}Q^{72} + 56P^5R^{34}Q^{72} + \\
& 30PR^{36}Q^{71} + 60P^4R^{35}Q^{71} + 69R^{37}Q^{70} + 34P^3R^{36}Q^{70} + 46P^2R^{37}Q^{69} + 40P^5R^{36}Q^{69} + \\
& 50PR^{38}Q^{68} + 9P^4R^{37}Q^{68} + 59R^{39}Q^{67} + 49P^3R^{38}Q^{67} + 64P^2R^{39}Q^{66} + 3P^5R^{38}Q^{66} + \\
& 10PR^{40}Q^{65} + 26P^4R^{39}Q^{65} + 37R^{41}Q^{64} + 6P^3R^{40}Q^{64} + 33P^2R^{41}Q^{63} + 40P^5R^{40}Q^{63} + \\
& 62PR^{42}Q^{62} + 67P^4R^{41}Q^{62} + 36R^{43}Q^{61} + 20P^3R^{42}Q^{61} + 45P^2R^{43}Q^{60} + 40P^5R^{42}Q^{60} + \\
& 33PR^{44}Q^{59} + 39P^4R^{43}Q^{59} + 21R^{45}Q^{58} + 64P^3R^{44}Q^{58} + 15P^2R^{45}Q^{57} + 13P^5R^{44}Q^{57} + \\
& 50PR^{46}Q^{56} + 19P^4R^{45}Q^{56} + 2R^{47}Q^{55} + 5P^3R^{46}Q^{55} + 20P^2R^{47}Q^{54} + 22P^5R^{46}Q^{54} + 68PR^{48}Q^{53} + \\
& 48P^4R^{47}Q^{53} + 61R^{49}Q^{52} + 47P^3R^{48}Q^{52} + 31P^5R^{48}Q^{51} + 10PR^{50}Q^{50} + 20P^4R^{49}Q^{50} + \\
& 18R^{51}Q^{49} + 23P^3R^{50}Q^{49} + 60P^2R^{51}Q^{48} + 32P^5R^{50}Q^{48} + 34PR^{52}Q^{47} + 26P^4R^{51}Q^{47} + \\
& 32R^{53}Q^{46} + 4P^3R^{52}Q^{46} + 24P^2R^{53}Q^{45} + 30P^5R^{52}Q^{45} + 56PR^{54}Q^{44} + 40P^4R^{53}Q^{44} + \\
& 40R^{55}Q^{43} + 22P^3R^{54}Q^{43} + 33P^2R^{55}Q^{42} + 8P^5R^{54}Q^{42} + 67PR^{56}Q^{41} + 23P^4R^{55}Q^{41} + 25R^{57}Q^{40} + \\
& 68P^3R^{56}Q^{40} + P^2R^{57}Q^{39} + 6P^5R^{56}Q^{39} + 51PR^{58}Q^{38} + 69P^4R^{57}Q^{38} + 45R^{59}Q^{37} + 11P^3R^{58}Q^{37} + \\
& 56P^2R^{59}Q^{36} + 63P^5R^{58}Q^{36} + 20PR^{60}Q^{35} + 60P^4R^{59}Q^{35} + 37R^{61}Q^{34} + 15P^3R^{60}Q^{34} + \\
& 64P^2R^{61}Q^{33} + P^5R^{60}Q^{33} + 60PR^{62}Q^{32} + 39P^4R^{61}Q^{32} + 22R^{63}Q^{31} + 45P^3R^{62}Q^{31} + 54P^2R^{63}Q^{30} + \\
& 53P^5R^{62}Q^{30} + 7PR^{64}Q^{29} + 47P^4R^{63}Q^{29} + 62R^{65}Q^{28} + 5P^3R^{64}Q^{28} + 12P^2R^{65}Q^{27} + 10P^5R^{64}Q^{27} + \\
& 27PR^{66}Q^{26} + 50P^4R^{65}Q^{26} + 38R^{67}Q^{25} + 62P^3R^{66}Q^{25} + 4P^2R^{67}Q^{24} + 58P^5R^{66}Q^{24} + \\
& 67PR^{68}Q^{23} + 52P^4R^{67}Q^{23} + 44R^{69}Q^{22} + 24P^3R^{68}Q^{22} + 63P^2R^{69}Q^{21} + 54P^5R^{68}Q^{21} + \\
& 65PR^{70}Q^{20} + 3P^4R^{69}Q^{20} + 68R^{71}Q^{19} + 3P^3R^{70}Q^{19} + 9P^2R^{71}Q^{18} + 10P^5R^{70}Q^{18} + 39PR^{72}Q^{17} + \\
& 41P^4R^{71}Q^{17} + 8R^{73}Q^{16} + 22P^3R^{72}Q^{16} + 60P^2R^{73}Q^{15} + 17P^5R^{72}Q^{15} + 6PR^{74}Q^{14} + 66P^4R^{73}Q^{14} + \\
& 59R^{75}Q^{13} + 67P^3R^{74}Q^{13} + 29P^2R^{75}Q^{12} + 18P^5R^{74}Q^{12} + 18PR^{76}Q^{11} + 49P^4R^{75}Q^{11} + 8R^{77}Q^{10} + \\
& 53P^3R^{76}Q^{10} + 24P^2R^{77}Q^9 + 32P^5R^{76}Q^9 + 8PR^{78}Q^8 + 53P^4R^{77}Q^8 + 43R^{79}Q^7 + 51P^3R^{78}Q^7 + \\
& 49P^2R^{79}Q^6 + 33P^5R^{78}Q^6 + 4PR^{80}Q^5 + 24P^4R^{79}Q^5 + 59R^{81}Q^4 + 10P^3R^{80}Q^4 + 63P^2R^{81}Q^3 + \\
& 41P^5R^{80}Q^3 + 39PR^{82}Q^2 + 54P^4R^{81}Q^2 + 53R^{83}Q + 9P^3R^{82}Q + 12P^2R^{83} + 45P^5R^{82}) \\
& = (Q^3 - R^2)^{42} - 71(4Q^{126} - 255P^2Q^{125} - 276P^4Q^{124} - 26PRQ^{124} - 266P^6Q^{123} + 287R^2Q^{123} - \\
& 76P^3RQ^{123} + 285P^2R^2Q^{122} + 66P^5RQ^{122} + 48PR^3Q^{121} - 166P^4R^2Q^{121} + 69R^4Q^{120} + \\
& 392P^3R^3Q^{120} - 252P^6R^2Q^{120} - 3P^2R^4Q^{119} - 60P^5R^3Q^{119} - 448PR^5Q^{118} - 116P^4R^4Q^{118} + \\
& 317R^6Q^{117} + 288P^3R^5Q^{117} - 399P^6R^4Q^{117} - 309P^2R^6Q^{116} + 156P^5R^5Q^{116} + 292PR^7Q^{115} + \\
& 123P^4R^6Q^{115} + 1760R^8Q^{114} - 84P^3R^7Q^{114} - 259P^6R^6Q^{114} + 51P^2R^8Q^{113} + 156P^5R^7Q^{113} - \\
& 290PR^9Q^{112} - 31P^4R^8Q^{112} - 11549R^{10}Q^{111} + 24P^3R^9Q^{111} - 462P^6R^8Q^{111} + 129P^2R^{10}Q^{110} + \\
& 354P^5R^9Q^{110} - 232PR^{11}Q^{109} - 313P^4R^{10}Q^{109} + 74168R^{12}Q^{108} + 148P^3R^{11}Q^{108} - \\
& 385P^6R^{10}Q^{108} + 108P^2R^{12}Q^{107} + 102P^5R^{11}Q^{107} + 56PR^{13}Q^{106} + 246P^4R^{12}Q^{106} - \\
& 379854R^{14}Q^{105} - 176P^3R^{13}Q^{105} - 476P^6R^{12}Q^{105} + 198P^2R^{14}Q^{104} + 300P^5R^{13}Q^{104} - \\
& 226PR^{15}Q^{103} - 230P^4R^{14}Q^{103} + 1662727R^{16}Q^{102} + 364P^3R^{15}Q^{102} - 308P^6R^{14}Q^{102} - \\
& 30P^2R^{16}Q^{101} + 72P^5R^{15}Q^{101} - 370PR^{17}Q^{100} + 83P^4R^{16}Q^{100} - 6279706R^{18}Q^{99} - \\
& 212P^3R^{17}Q^{99} - 371P^6R^{16}Q^{99} + 324P^2R^{18}Q^{98} + 108P^5R^{17}Q^{98} - 212PR^{19}Q^{97} + 157P^4R^{18}Q^{97} + \\
& 20724904R^{20}Q^{96} - 336P^3R^{19}Q^{96} - 105P^6R^{18}Q^{96} + 222P^2R^{20}Q^{95} - 312P^5R^{19}Q^{95} -
\end{aligned}$$

$$\begin{aligned}
& 112PR^{21}Q^{94} + 124P^4R^{20}Q^{94} - 60289216R^{22}Q^{93} - 116P^3R^{21}Q^{93} - 231P^6R^{20}Q^{93} + 63P^2R^{22}Q^{92} + \\
& 48P^5R^{21}Q^{92} - 164PR^{23}Q^{91} + 133P^4R^{22}Q^{91} + 155748529R^{24}Q^{90} + 24P^3R^{23}Q^{90} - 322P^6R^{22}Q^{90} + \\
& 75P^2R^{24}Q^{89} - 30P^5R^{23}Q^{89} - 298PR^{25}Q^{88} - 144P^4R^{24}Q^{88} - 359418407R^{26}Q^{87} + 308P^3R^{25}Q^{87} - \\
& 84P^6R^{24}Q^{87} + 48P^2R^{26}Q^{86} - 354P^5R^{25}Q^{86} + 26PR^{27}Q^{85} + 101P^4R^{26}Q^{85} + 744510431R^{28}Q^{84} - \\
& 108P^3R^{27}Q^{84} - 182P^6R^{26}Q^{84} + 198P^2R^{28}Q^{83} + 138P^5R^{27}Q^{83} + 42PR^{29}Q^{82} - 232P^4R^{28}Q^{82} - \\
& 1389752295R^{30}Q^{81} + 104P^3R^{29}Q^{81} - 231P^6R^{28}Q^{81} - 129P^2R^{30}Q^{80} + 156P^5R^{29}Q^{80} + \\
& 2PR^{31}Q^{79} - 245P^4R^{30}Q^{79} + 2345207504R^{32}Q^{78} + 328P^3R^{31}Q^{78} - 441P^6R^{30}Q^{78} + \\
& 141P^2R^{32}Q^{77} + 144P^5R^{31}Q^{77} - 40PR^{33}Q^{76} + 2P^4R^{32}Q^{76} - 3586787635R^{34}Q^{75} - \\
& 32P^3R^{33}Q^{75} - 455P^6R^{32}Q^{75} + 237P^2R^{34}Q^{74} + 162P^5R^{33}Q^{74} + 6PR^{35}Q^{73} + 344P^4R^{34}Q^{73} + \\
& 4981649866R^{36}Q^{72} - 196P^3R^{35}Q^{72} - 392P^6R^{34}Q^{72} + 108P^2R^{36}Q^{71} - 72P^5R^{35}Q^{71} - \\
& 206PR^{37}Q^{70} + 32P^4R^{36}Q^{70} - 6292609544R^{38}Q^{69} - 32P^3R^{37}Q^{69} - 280P^6R^{36}Q^{69} + 39P^2R^{38}Q^{68} + \\
& 102P^5R^{37}Q^{68} - 190PR^{39}Q^{67} - 224P^4R^{38}Q^{67} + 7236501864R^{40}Q^{66} - 244P^3R^{39}Q^{66} - \\
& 21P^6R^{38}Q^{66} + 282P^2R^{40}Q^{65} - 36P^5R^{39}Q^{65} - 4PR^{41}Q^{64} + 288P^4R^{40}Q^{64} - 7581096558R^{42}Q^{63} - \\
& 136P^3R^{41}Q^{63} - 280P^6R^{40}Q^{63} - 156P^2R^{42}Q^{62} - 186P^5R^{41}Q^{62} + 86PR^{43}Q^{61} + 238P^4R^{42}Q^{61} + \\
& 7236501717R^{44}Q^{60} - 8P^3R^{43}Q^{60} - 280P^6R^{42}Q^{60} - 21P^2R^{44}Q^{59} - 90P^5R^{43}Q^{59} + 156PR^{45}Q^{58} - \\
& 247P^4R^{44}Q^{58} - 6292609934R^{46}Q^{57} + 124P^3R^{45}Q^{57} - 91P^6R^{44}Q^{57} - 225P^2R^{46}Q^{56} - \\
& 6P^5R^{45}Q^{56} + 420PR^{47}Q^{55} + 217P^4R^{46}Q^{55} + 4981649852R^{48}Q^{54} + 68P^3R^{47}Q^{54} - 154P^6R^{46}Q^{54} - \\
& 417P^2R^{48}Q^{53} - 144P^5R^{47}Q^{53} - 186PR^{49}Q^{52} - 102P^4R^{48}Q^{52} - 3586787450R^{50}Q^{51} + \\
& 236P^3R^{49}Q^{51} - 217P^6R^{48}Q^{51} + 189P^2R^{50}Q^{50} + 84P^5R^{49}Q^{50} + 52PR^{51}Q^{49} + 9P^4R^{50}Q^{49} + \\
& 2345207540R^{52}Q^{48} - 340P^3R^{51}Q^{48} - 224P^6R^{50}Q^{48} + 30P^2R^{52}Q^{47} + 36P^5R^{51}Q^{47} + \\
& 120PR^{53}Q^{46} + 222P^4R^{52}Q^{46} - 1389752232R^{54}Q^{45} - 56P^3R^{53}Q^{45} - 210P^6R^{52}Q^{45} - \\
& 180P^2R^{54}Q^{44} - 168P^5R^{53}Q^{44} + 174PR^{55}Q^{43} + 52P^4R^{54}Q^{43} + 744510487R^{56}Q^{42} + \\
& 144P^3R^{55}Q^{42} - 56P^6R^{54}Q^{42} - 387P^2R^{56}Q^{41} - 114P^5R^{55}Q^{41} + 228PR^{57}Q^{40} - 92P^4R^{56}Q^{40} - \\
& 359418469R^{58}Q^{39} + 204P^3R^{57}Q^{39} - 42P^6R^{56}Q^{39} - 78P^2R^{58}Q^{38} - 162P^5R^{57}Q^{38} - 106PR^{59}Q^{37} + \\
& 374P^4R^{58}Q^{37} + 155748410R^{60}Q^{36} - 292P^3R^{59}Q^{36} - 441P^6R^{58}Q^{36} + 303P^2R^{60}Q^{35} - \\
& 288P^5R^{59}Q^{35} + 94PR^{61}Q^{34} + 214P^4R^{60}Q^{34} - 60289408R^{62}Q^{33} - 184P^3R^{61}Q^{33} - 7P^6R^{60}Q^{33} - \\
& 15P^2R^{62}Q^{32} + 6P^5R^{61}Q^{32} - 8PR^{63}Q^{31} + 8P^4R^{62}Q^{31} + 20724928R^{64}Q^{30} - 272P^3R^{63}Q^{30} - \\
& 371P^6R^{62}Q^{30} + 108P^2R^{64}Q^{29} - 186P^5R^{63}Q^{29} - 276PR^{65}Q^{28} + 317P^4R^{64}Q^{28} - 6279853R^{66}Q^{27} + \\
& 272P^3R^{65}Q^{27} - 70P^6R^{64}Q^{27} - 147P^2R^{66}Q^{26} - 12P^5R^{65}Q^{26} + 156PR^{67}Q^{25} - 64P^4R^{66}Q^{25} + \\
& 1662708R^{68}Q^{24} + 200P^3R^{67}Q^{24} - 406P^6R^{66}Q^{24} - 99P^2R^{68}Q^{23} + 24P^5R^{67}Q^{23} + 162PR^{69}Q^{22} - \\
& 80P^4R^{68}Q^{22} - 379513R^{70}Q^{21} - 396P^3R^{69}Q^{21} - 378P^6R^{68}Q^{21} - 330P^2R^{70}Q^{20} + 102P^5R^{69}Q^{20} - \\
& 170PR^{71}Q^{19} + 229P^4R^{70}Q^{19} + 74007R^{72}Q^{18} + 76P^3R^{71}Q^{18} - 70P^6R^{70}Q^{18} + 105P^2R^{72}Q^{17} - \\
& 174P^5R^{71}Q^{17} + 20PR^{73}Q^{16} + 293P^4R^{72}Q^{16} - 11600R^{74}Q^{15} + 20P^3R^{73}Q^{15} - 119P^6R^{72}Q^{15} + \\
& 195P^2R^{74}Q^{14} - 336P^5R^{73}Q^{14} - 296PR^{75}Q^{13} - 107P^4R^{74}Q^{13} + 1672R^{76}Q^{12} + 188P^3R^{75}Q^{12} - \\
& 126P^6R^{74}Q^{12} + 51P^2R^{76}Q^{11} - 126P^5R^{75}Q^{11} + 8PR^{77}Q^{10} + 5P^4R^{76}Q^{10} + 130R^{78}Q^9 + \\
& 200P^3R^{77}Q^9 - 224P^6R^{76}Q^9 + 285P^2R^{78}Q^8 - 138P^5R^{77}Q^8 - 272PR^{79}Q^7 - 172P^4R^{78}Q^7 + \\
& 433R^{80}Q^6 - 256P^3R^{79}Q^6 - 231P^6R^{78}Q^6 + 420P^2R^{80}Q^5 + 120P^5R^{79}Q^5 - 144PR^{81}Q^4 + \\
& 309P^4R^{80}Q^4 + 385R^{82}Q^3 - 376P^3R^{81}Q^3 - 287P^6R^{80}Q^3 - 180P^2R^{82}Q^2 - 60P^5R^{81}Q^2 - \\
& 370PR^{83}Q - 54P^4R^{82}Q + 3R^{84} - 84P^3R^{83} - 315P^6R^{82})
\end{aligned}$$

$$\begin{aligned}
& 12^6\vartheta^6(34Q^{123} + 21R^2Q^{120} + 51R^4Q^{117} + 63R^6Q^{114} + 3R^8Q^{111} + 38R^{10}Q^{108} + 16R^{12}Q^{105} + \\
& 2R^{14}Q^{102} + 25R^{16}Q^{99} + 62R^{18}Q^{96} + 37R^{20}Q^{93} + 15R^{22}Q^{90} + 7R^{24}Q^{87} + 27R^{26}Q^{84} + 37R^{28}Q^{81} + \\
& 19R^{30}Q^{78} + 32R^{32}Q^{75} + 9R^{34}Q^{72} + 47R^{36}Q^{69} + 55R^{38}Q^{66} + 47R^{40}Q^{63} + 47R^{42}Q^{60} + 49R^{44}Q^{57} + \\
& R^{46}Q^{54} + 24R^{48}Q^{51} + 66R^{50}Q^{48} + 53R^{52}Q^{45} + 52R^{54}Q^{42} + 39R^{56}Q^{39} + 19R^{58}Q^{36} + 42R^{60}Q^{33} + \\
& 25R^{62}Q^{30} + 65R^{64}Q^{27} + 22R^{66}Q^{24} + 67R^{68}Q^{21} + 65R^{70}Q^{18} + 4R^{72}Q^{15} + 46R^{74}Q^{12} + 66R^{76}Q^9 + \\
& 37R^{78}Q^6 + 18R^{80}Q^3 + 44R^{82}) \equiv (Q^3 - R^2)^{42} \pmod{71}
\end{aligned}$$

$$p_{26}(71t + 64) \equiv 0 \pmod{71} \text{ via } Q^{71}(Q^3 - R^2)^7$$

$$\begin{aligned}
& 12\vartheta(54P^9Q^{91} + 8P^3Q^{90} + 50RQ^{90} + 67P^5Q^{89} + 15P^2RQ^{89} + 68P^7Q^{88} + 62PR^2Q^{88} + 14P^4RQ^{88} + \\
& 43P^9Q^{87} + 58R^3Q^{87} + 21P^3R^2Q^{87} + 35P^6RQ^{87} + 44P^{11}Q^{86} + 38P^2R^3Q^{86} + 62P^5R^2Q^{86} + \\
& 40P^8RQ^{86} + 43PR^4Q^{85} + 26P^4R^3Q^{85} + 70P^7R^2Q^{85} + 52P^{10}RQ^{85} + 54R^5Q^{84} + 19P^3R^4Q^{84} + \\
& 11P^6R^3Q^{84} + 45P^9R^2Q^{84} + 24P^2R^5Q^{83} + 51P^5R^4Q^{83} + 53P^8R^3Q^{83} + 21P^{11}R^2Q^{83} + \\
& 39PR^6Q^{82} + 64P^4R^5Q^{82} + 55P^7R^4Q^{82} + 48R^7Q^{81} + 3P^3R^6Q^{81} + 28P^6R^5Q^{81} + 60P^9R^4Q^{81} + \\
& 7P^2R^7Q^{80} + 66P^5R^6Q^{80} + 56P^8R^5Q^{80} + 29P^{11}R^4Q^{80} + 43PR^8Q^{79} + 44P^4R^7Q^{79} + 11P^7R^6Q^{79} + \\
& 62P^{10}R^5Q^{79} + 34R^9Q^{78} + 41P^3R^8Q^{78} + 57P^6R^7Q^{78} + 47P^9R^6Q^{78} + 26P^2R^9Q^{77} + 6P^5R^8Q^{77} + \\
& 63P^8R^7Q^{77} + 24P^{11}R^6Q^{77} + 70PR^{10}Q^{76} + 11P^4R^9Q^{76} + 31P^7R^8Q^{76} + 40P^{10}R^7Q^{76} + 44R^{11}Q^{75} + \\
& 29P^3R^{10}Q^{75} + 21P^6R^9Q^{75} + 17P^9R^8Q^{75} + 59P^2R^{11}Q^{74} + 24P^5R^{10}Q^{74} + 28P^8R^9Q^{74} + \\
& 48P^{11}R^8Q^{74} + 31PR^{12}Q^{73} + 50P^4R^{11}Q^{73} + 22P^7R^{10}Q^{73} + 26P^{10}R^9Q^{73} + 36R^{13}Q^{72} + \\
& 9P^3R^{12}Q^{72} + 55P^6R^{11}Q^{72} + 2P^9R^{10}Q^{72} + 61P^2R^{13}Q^{71} + 16P^5R^{12}Q^{71} + 39P^8R^{11}Q^{71} + \\
& 50P^{11}R^{10}Q^{71} + 2PR^{14}Q^{70} + 33P^4R^{13}Q^{70} + 23P^{10}R^{11}Q^{70} + 26R^{15}Q^{69} + 2P^3R^{14}Q^{69} + \\
& 33P^6R^{13}Q^{69} + 21P^9R^{12}Q^{69} + 68P^2R^{15}Q^{68} + 8P^5R^{14}Q^{68} + 44P^8R^{13}Q^{68} + 23P^{11}R^{12}Q^{68} + \\
& 12PR^{16}Q^{67} + 58P^4R^{15}Q^{67} + 2P^7R^{14}Q^{67} + 54P^{10}R^{13}Q^{67} + 59R^{17}Q^{66} + 13P^3R^{16}Q^{66} + \\
& 68P^6R^{15}Q^{66} + 58P^9R^{14}Q^{66} + 61P^2R^{17}Q^{65} + 35P^5R^{16}Q^{65} + 68P^8R^{15}Q^{65} + 9P^{11}R^{14}Q^{65} + \\
& 6PR^{18}Q^{64} + 62P^4R^{17}Q^{64} + 13P^7R^{16}Q^{64} + 9P^{10}R^{15}Q^{64} + 24R^{19}Q^{63} + 19P^3R^{18}Q^{63} + \\
& 50P^6R^{17}Q^{63} + 68P^9R^{16}Q^{63} + 11P^2R^{19}Q^{62} + 34P^5R^{18}Q^{62} + 30P^8R^{17}Q^{62} + 9P^{11}R^{16}Q^{62} + \\
& 33PR^{20}Q^{61} + 35P^4R^{19}Q^{61} + 60P^7R^{18}Q^{61} + 62P^{10}R^{17}Q^{61} + 65R^{21}Q^{60} + 42P^3R^{20}Q^{60} + \\
& 52P^6R^{19}Q^{60} + 56P^9R^{18}Q^{60} + 69P^2R^{21}Q^{59} + 41P^5R^{20}Q^{59} + 52P^8R^{19}Q^{59} + 68P^{11}R^{18}Q^{59} + \\
& 2PR^{22}Q^{58} + 33P^4R^{21}Q^{58} + 40P^7R^{20}Q^{58} + 66P^{10}R^{19}Q^{58} + 31R^{23}Q^{57} + 29P^3R^{22}Q^{57} + \\
& 10P^6R^{21}Q^{57} + 40P^9R^{20}Q^{57} + 23P^2R^{23}Q^{56} + 63P^5R^{22}Q^{56} + 34P^8R^{21}Q^{56} + 10P^{11}R^{20}Q^{56} + \\
& 22PR^{24}Q^{55} + 13P^7R^{22}Q^{55} + 27P^{10}R^{21}Q^{55} + 19R^{25}Q^{54} + 28P^3R^{24}Q^{54} + 19P^6R^{23}Q^{54} + \\
& 20P^9R^{22}Q^{54} + 12P^2R^{25}Q^{53} + 58P^5R^{24}Q^{53} + 19P^8R^{23}Q^{53} + 58P^{11}R^{22}Q^{53} + 58PR^{26}Q^{52} + \\
& 45P^4R^{25}Q^{52} + 68P^7R^{24}Q^{52} + 37P^{10}R^{23}Q^{52} + 12R^{27}Q^{51} + 70P^3R^{26}Q^{51} + 39P^6R^{25}Q^{51} + \\
& 62P^9R^{24}Q^{51} + 12P^2R^{27}Q^{50} + 15P^5R^{26}Q^{50} + 11P^8R^{25}Q^{50} + 12P^{11}R^{24}Q^{50} + 59PR^{28}Q^{49} + \\
& 37P^7R^{26}Q^{49} + 31P^{10}R^{25}Q^{49} + 57R^{29}Q^{48} + 12P^3R^{28}Q^{48} + 2P^6R^{27}Q^{48} + 15P^9R^{26}Q^{48} + \\
& 48P^5R^{28}Q^{47} + 22P^8R^{27}Q^{47} + 59P^{11}R^{26}Q^{47} + 13PR^{30}Q^{46} + 31P^4R^{29}Q^{46} + 26P^7R^{28}Q^{46} + \\
& 38P^{10}R^{27}Q^{46} + 14R^{31}Q^{45} + 37P^3R^{30}Q^{45} + 49P^6R^{29}Q^{45} + 41P^9R^{28}Q^{45} + 44P^2R^{31}Q^{44} + \\
& 9P^5R^{30}Q^{44} + 20P^8R^{29}Q^{44} + 50P^{11}R^{28}Q^{44} + 33PR^{32}Q^{43} + 10P^4R^{31}Q^{43} + 9P^7R^{30}Q^{43} + \\
& 42P^{10}R^{29}Q^{43} + 14R^{33}Q^{42} + 50P^3R^{32}Q^{42} + 43P^6R^{31}Q^{42} + 28P^9R^{30}Q^{42} + 12P^2R^{33}Q^{41} + \\
& 10P^5R^{32}Q^{41} + 70P^8R^{31}Q^{41} + 61P^{11}R^{30}Q^{41} + 64PR^{34}Q^{40} + 44P^4R^{33}Q^{40} + 9P^7R^{32}Q^{40} + \\
& 30P^{10}R^{31}Q^{40} + 48R^{35}Q^{39} + 10P^3R^{34}Q^{39} + 70P^6R^{33}Q^{39} + 66P^9R^{32}Q^{39} + 3P^2R^{35}Q^{38} + \\
& 29P^5R^{34}Q^{38} + 31P^8R^{33}Q^{38} + 5P^{11}R^{32}Q^{38} + 3PR^{36}Q^{37} + 49P^4R^{35}Q^{37} + 54P^7R^{34}Q^{37} + \\
& 64P^{10}R^{33}Q^{37} + 67R^{37}Q^{36} + 39P^3R^{36}Q^{36} + 16P^6R^{35}Q^{36} + 53P^9R^{34}Q^{36} + 58P^2R^{37}Q^{35} + \\
& 33P^5R^{36}Q^{35} + P^8R^{35}Q^{35} + 30P^{11}R^{34}Q^{35} + 26PR^{38}Q^{34} + 31P^4R^{37}Q^{34} + 58P^7R^{36}Q^{34} + \\
& 37P^{10}R^{35}Q^{34} + 60R^{39}Q^{33} + 45P^3R^{38}Q^{33} + 68P^6R^{37}Q^{33} + 8P^9R^{36}Q^{33} + 25P^2R^{39}Q^{32} + \\
& 39P^5R^{38}Q^{32} + 18P^8R^{37}Q^{32} + 56P^{11}R^{36}Q^{32} + 31PR^{40}Q^{31} + 37P^4R^{39}Q^{31} + 41P^7R^{38}Q^{31} + \\
& 29P^{10}R^{37}Q^{31} + 28R^{41}Q^{30} + 9P^3R^{40}Q^{30} + 40P^6R^{39}Q^{30} + 18P^9R^{38}Q^{30} + 45P^2R^{41}Q^{29} + \\
& 63P^5R^{40}Q^{29} + 29P^8R^{39}Q^{29} + 40P^{11}R^{38}Q^{29} + 29PR^{42}Q^{28} + 58P^4R^{41}Q^{28} + 13P^7R^{40}Q^{28} + \\
& 9P^{10}R^{39}Q^{28} + 2R^{43}Q^{27} + 35P^3R^{42}Q^{27} + 16P^6R^{41}Q^{27} + 54P^9R^{40}Q^{27} + 38P^2R^{43}Q^{26} + \\
& 19P^5R^{42}Q^{26} + 14P^8R^{41}Q^{26} + 52P^{11}R^{40}Q^{26} + 16PR^{44}Q^{25} + 27P^4R^{43}Q^{25} + 11P^7R^{42}Q^{25} + \\
& 35P^{10}R^{41}Q^{25} + 47R^{45}Q^{24} + 14P^3R^{44}Q^{24} + 35P^6R^{43}Q^{24} + 41P^9R^{42}Q^{24} + 4P^5R^{44}Q^{23} + \\
& 33P^8R^{43}Q^{23} + 37P^{11}R^{42}Q^{23} + 20PR^{46}Q^{22} + 24P^4R^{45}Q^{22} + 63P^7R^{44}Q^{22} + 57P^{10}R^{43}Q^{22} + \\
& 65R^{47}Q^{21} + 38P^3R^{46}Q^{21} + P^6R^{45}Q^{21} + 18P^9R^{44}Q^{21} + 28P^2R^{47}Q^{20} + 8P^5R^{46}Q^{20} + 38P^8R^{45}Q^{20} + \\
& 36P^{11}R^{44}Q^{20} + 62PR^{48}Q^{19} + P^4R^{47}Q^{19} + 47P^7R^{46}Q^{19} + 29P^{10}R^{45}Q^{19} + 30R^{49}Q^{18} + \\
& 45P^3R^{48}Q^{18} + 5P^6R^{47}Q^{18} + 69P^9R^{46}Q^{18} + 2P^2R^{49}Q^{17} + 65P^5R^{48}Q^{17} + 68P^8R^{47}Q^{17} + \\
& 28P^{11}R^{46}Q^{17} + PR^{50}Q^{16} + 3P^4R^{49}Q^{16} + 60P^7R^{48}Q^{16} + 51P^{10}R^{47}Q^{16} + 47R^{51}Q^{15} + 2P^3R^{50}Q^{15} + \\
& 32P^6R^{49}Q^{15} + 66P^9R^{48}Q^{15} + 65P^2R^{51}Q^{14} + 37P^5R^{50}Q^{14} + 56P^8R^{49}Q^{14} + 16P^{11}R^{48}Q^{14} + \\
& 9PR^{52}Q^{13} + 32P^4R^{51}Q^{13} + 26P^7R^{50}Q^{13} + 10P^{10}R^{49}Q^{13} + 40R^{53}Q^{12} + 45P^3R^{52}Q^{12} +
\end{aligned}$$

$$\begin{aligned}
& 63P^6R^{51}Q^{12} + 23P^9R^{50}Q^{12} + 19P^2R^{53}Q^{11} + 27P^5R^{52}Q^{11} + 69P^8R^{51}Q^{11} + 60P^{11}R^{50}Q^{11} + \\
& 9PR^{54}Q^{10} + 60P^4R^{53}Q^{10} + 32P^7R^{52}Q^{10} + 13P^{10}R^{51}Q^{10} + 9R^{55}Q^9 + 49P^3R^{54}Q^9 + 22P^6R^{53}Q^9 + \\
& 47P^9R^{52}Q^9 + 13P^2R^{55}Q^8 + 13P^5R^{54}Q^8 + 67P^8R^{53}Q^8 + 45PR^{56}Q^7 + 46P^4R^{55}Q^7 + 39P^7R^{54}Q^7 + \\
& 12R^{57}Q^6 + 59P^3R^{56}Q^6 + 48P^6R^{55}Q^6 + 11P^2R^{57}Q^5 + 50P^5R^{56}Q^5 + 2PR^{58}Q^4 + 11P^4R^{57}Q^4 + \\
& 6R^{59}Q^3 + 22P^3R^{58}Q^3 + 53P^2R^{59}Q^2 + 14PR^{60}Q + 18R^{61}) \\
& = Q^{71}(Q^3 - R^2)^7 - 71(5Q^{92} - 276P^2Q^{91} - 35P^4Q^{90} + 30PRQ^{90} - 331P^6Q^{89} + 269R^2Q^{89} - \\
& 32P^3RQ^{89} - 335P^8Q^{88} - 233P^2R^2Q^{88} + 278P^5RQ^{88} - 205P^{10}Q^{87} + 24PR^3Q^{87} - 27P^4R^2Q^{87} + \\
& 176P^7RQ^{87} - 220P^{12}Q^{86} + 308R^4Q^{86} - 84P^3R^3Q^{86} - 134P^6R^2Q^{86} + 24P^9RQ^{86} - 26P^2R^4Q^{85} + \\
& 186P^5R^3Q^{85} - 141P^8R^2Q^{85} - 44P^{11}RQ^{85} - 52PR^5Q^{84} + 58P^4R^4Q^{84} + 304P^7R^3Q^{84} + \\
& 26P^{10}R^2Q^{84} + 284R^6Q^{83} - 28P^3R^5Q^{83} - 190P^6R^4Q^{83} - 34P^9R^3Q^{83} - 105P^{12}R^2Q^{83} - \\
& 84P^2R^6Q^{82} - 52P^5R^5Q^{82} + P^8R^4Q^{82} + 108P^{11}R^3Q^{82} - 38PR^7Q^{81} + 311P^4R^6Q^{81} + \\
& 124P^7R^5Q^{81} - 271P^{10}R^4Q^{81} + 246R^8Q^{80} + 8P^3R^7Q^{80} - 173P^6R^6Q^{80} + 24P^9R^5Q^{80} - \\
& 145P^{12}R^4Q^{80} - 168P^2R^8Q^{79} + 82P^5R^7Q^{79} + 240P^8R^6Q^{79} - 168P^{11}R^5Q^{79} + 76PR^9Q^{78} - \\
& 5P^4R^8Q^{78} - 212P^7R^7Q^{78} + 67P^{10}R^6Q^{78} + 191R^{10}Q^{77} + 72P^3R^9Q^{77} + 239P^6R^8Q^{77} - \\
& 94P^9R^7Q^{77} - 120P^{12}R^6Q^{77} - 191P^2R^{10}Q^{76} - 8P^5R^9Q^{76} + 140P^8R^8Q^{76} - 64P^{11}R^7Q^{76} + \\
& 106PR^{11}Q^{75} - 53P^4R^{10}Q^{75} + 48P^7R^9Q^{75} + 113P^{10}R^8Q^{75} + 226R^{12}Q^{74} - 168P^3R^{11}Q^{74} + \\
& 20P^6R^{10}Q^{74} - 64P^9R^9Q^{74} - 240P^{12}R^8Q^{74} + 154P^2R^{12}Q^{73} - 134P^5R^{11}Q^{73} + 42P^8R^{10}Q^{73} + \\
& 112P^{11}R^9Q^{73} - 54PR^{13}Q^{72} + 197P^4R^{12}Q^{72} - 184P^7R^{11}Q^{72} + 126P^{10}R^{10}Q^{72} + 179R^{14}Q^{71} - \\
& 272P^3R^{13}Q^{71} + 178P^6R^{12}Q^{71} - 164P^9R^{11}Q^{71} - 250P^{12}R^{10}Q^{71} + 320P^2R^{14}Q^{70} - 92P^5R^{13}Q^{70} + \\
& 207P^8R^{12}Q^{70} + 108P^{11}R^{11}Q^{70} - 108PR^{15}Q^{69} + 194P^4R^{14}Q^{69} - 160P^7R^{13}Q^{69} + 48P^{10}R^{12}Q^{69} + \\
& 186R^{16}Q^{68} - 320P^3R^{15}Q^{68} + 174P^6R^{14}Q^{68} - 64P^9R^{13}Q^{68} - 115P^{12}R^{12}Q^{68} + 287P^2R^{16}Q^{67} - \\
& 212P^5R^{15}Q^{67} + 252P^8R^{14}Q^{67} - 172P^{11}R^{13}Q^{67} - 248PR^{17}Q^{66} + 244P^4R^{16}Q^{66} - 312P^7R^{15}Q^{66} - \\
& 75P^{10}R^{14}Q^{66} + 258R^{18}Q^{65} - 232P^3R^{17}Q^{65} + 148P^6R^{16}Q^{65} - 34P^9R^{15}Q^{65} - 45P^{12}R^{14}Q^{65} + \\
& 211P^2R^{18}Q^{64} - 132P^5R^{17}Q^{64} + 235P^8R^{16}Q^{64} - 46PR^{19}Q^{63} + 185P^4R^{18}Q^{63} - 112P^7R^{17}Q^{63} - \\
& 219P^{10}R^{16}Q^{63} + 201R^{20}Q^{62} + 84P^3R^{19}Q^{62} + 94P^6R^{18}Q^{62} + 184P^9R^{17}Q^{62} - 45P^{12}R^{16}Q^{62} - \\
& 7P^2R^{20}Q^{61} + 14P^5R^{19}Q^{61} - 108P^8R^{18}Q^{61} - 176P^{11}R^{17}Q^{61} - 216PR^{21}Q^{60} - 33P^4R^{20}Q^{60} + \\
& 16P^7R^{19}Q^{60} + 48P^{10}R^{18}Q^{60} + 280R^{22}Q^{59} - 156P^3R^{21}Q^{59} - 11P^6R^{20}Q^{59} + 4P^9R^{19}Q^{59} - \\
& 340P^{12}R^{18}Q^{59} + 265P^2R^{22}Q^{58} + 86P^5R^{21}Q^{58} + 36P^8R^{20}Q^{58} - 88P^{11}R^{19}Q^{58} - 108PR^{23}Q^{57} - \\
& 36P^4R^{22}Q^{57} + 108P^7R^{21}Q^{57} + 64P^{10}R^{20}Q^{57} + 140R^{24}Q^{56} + 32P^3R^{23}Q^{56} - 250P^6R^{22}Q^{56} - \\
& 2P^9R^{21}Q^{56} - 50P^{12}R^{20}Q^{56} - 14P^2R^{24}Q^{55} + 318P^5R^{23}Q^{55} + 81P^8R^{22}Q^{55} + 4P^{11}R^{21}Q^{55} + \\
& 98PR^{25}Q^{54} - 44P^4R^{24}Q^{54} + 84P^7R^{23}Q^{54} + 64P^{10}R^{22}Q^{54} + 86R^{26}Q^{53} + 180P^3R^{25}Q^{53} - \\
& 148P^6R^{24}Q^{53} + 96P^9R^{23}Q^{53} - 290P^{12}R^{22}Q^{53} - 232P^2R^{26}Q^{52} - 20P^5R^{25}Q^{52} - 256P^8R^{24}Q^{52} + \\
& 12P^{11}R^{23}Q^{52} + 248PR^{27}Q^{51} - 225P^4R^{26}Q^{51} + 84P^7R^{25}Q^{51} - 136P^{10}R^{24}Q^{51} + 175R^{28}Q^{50} + \\
& 168P^3R^{27}Q^{50} + 44P^6R^{26}Q^{50} + 160P^9R^{25}Q^{50} - 60P^{12}R^{24}Q^{50} - 269P^2R^{28}Q^{49} + 156P^5R^{27}Q^{49} - \\
& 104P^8R^{26}Q^{49} + 8P^{11}R^{25}Q^{49} - 98PR^{29}Q^{48} + 18P^4R^{28}Q^{48} + 156P^7R^{27}Q^{48} + 106P^{10}R^{26}Q^{48} + \\
& 191R^{30}Q^{47} + 128P^3R^{29}Q^{47} - 116P^6R^{28}Q^{47} + 32P^9R^{27}Q^{47} - 295P^{12}R^{26}Q^{47} + 50P^2R^{30}Q^{46} - \\
& 4P^5R^{29}Q^{46} - 19P^8R^{28}Q^{46} + 84P^{11}R^{27}Q^{46} + 52PR^{31}Q^{45} - 82P^4R^{30}Q^{45} - 156P^7R^{29}Q^{45} + \\
& 3P^{10}R^{28}Q^{45} + 75R^{32}Q^{44} + 4P^3R^{31}Q^{44} + 192P^6R^{30}Q^{44} + 80P^9R^{29}Q^{44} - 250P^{12}R^{28}Q^{44} - \\
& 25P^2R^{32}Q^{43} + 2P^5R^{31}Q^{43} + 191P^8R^{30}Q^{43} + 68P^{11}R^{29}Q^{43} + 192PR^{33}Q^{42} - 108P^4R^{32}Q^{42} - \\
& 164P^7R^{31}Q^{42} + 49P^{10}R^{30}Q^{42} + 176R^{34}Q^{41} + 88P^3R^{33}Q^{41} + 247P^6R^{32}Q^{41} - 104P^9R^{31}Q^{41} - \\
& 305P^{12}R^{30}Q^{41} - 292P^2R^{34}Q^{40} - 112P^5R^{33}Q^{40} + 211P^8R^{32}Q^{40} + 4P^{11}R^{31}Q^{40} - 94PR^{35}Q^{39} + \\
& 195P^4R^{34}Q^{39} - 176P^7R^{33}Q^{39} - 85P^{10}R^{32}Q^{39} + 315R^{36}Q^{38} + 128P^3R^{35}Q^{38} + 59P^6R^{34}Q^{38} + \\
& 150P^9R^{33}Q^{38} - 25P^{12}R^{32}Q^{38} + 174P^2R^{36}Q^{37} - 86P^5R^{35}Q^{37} - 197P^8R^{34}Q^{37} - 224P^{11}R^{33}Q^{37} - \\
& 254PR^{37}Q^{36} + 2P^4R^{36}Q^{36} + 208P^7R^{35}Q^{36} - 19P^{10}R^{34}Q^{36} + 334R^{38}Q^{35} - 72P^3R^{37}Q^{35} + \\
& 83P^6R^{36}Q^{35} + 132P^9R^{35}Q^{35} - 150P^{12}R^{34}Q^{35} + 65P^2R^{38}Q^{34} + 38P^5R^{37}Q^{34} - 234P^8R^{36}Q^{34} + \\
& 44P^{11}R^{35}Q^{34} - 154PR^{39}Q^{33} - 46P^4R^{38}Q^{33} - 100P^7R^{37}Q^{33} + 130P^{10}R^{36}Q^{33} + 209R^{40}Q^{32} - \\
& 12P^3R^{39}Q^{32} + 64P^6R^{38}Q^{32} - 14P^9R^{37}Q^{32} - 280P^{12}R^{36}Q^{32} + 42P^2R^{40}Q^{31} + 98P^5R^{39}Q^{31} - \\
& 77P^8R^{38}Q^{31} + 84P^{11}R^{37}Q^{31} + 14PR^{41}Q^{30} + 224P^4R^{40}Q^{30} - 84P^7R^{39}Q^{30} - 4P^{10}R^{38}Q^{30} + \\
& 55R^{42}Q^{29} - 88P^3R^{41}Q^{29} - 196P^6R^{40}Q^{29} + 68P^9R^{39}Q^{29} - 200P^{12}R^{38}Q^{29} + 64P^2R^{42}Q^{28} -
\end{aligned}$$



$$\begin{aligned}
& 124P^5R^{41}Q^{28} + 37P^8R^{40}Q^{28} + 196P^{11}R^{39}Q^{28} + 96PR^{43}Q^{27} + 12P^4R^{42}Q^{27} - 20P^7R^{41}Q^{27} - \\
& 128P^{10}R^{40}Q^{27} + 182R^{44}Q^{26} - 88P^3R^{43}Q^{26} + 56P^6R^{42}Q^{26} + 162P^9R^{41}Q^{26} - 260P^{12}R^{40}Q^{26} - \\
& 26P^2R^{44}Q^{25} - 92P^5R^{43}Q^{25} + 90P^8R^{42}Q^{25} + 32P^{11}R^{41}Q^{25} - 142PR^{45}Q^{24} + 58P^4R^{44}Q^{24} + \\
& 76P^7R^{43}Q^{24} + 56P^{10}R^{42}Q^{24} + 322R^{46}Q^{23} + 168P^3R^{45}Q^{23} + 37P^6R^{44}Q^{23} - 36P^9R^{43}Q^{23} - \\
& 185P^{12}R^{42}Q^{23} + 10P^2R^{46}Q^{22} - 86P^5R^{45}Q^{22} - 129P^8R^{44}Q^{22} - 104P^{11}R^{43}Q^{22} - 58PR^{47}Q^{21} - \\
& 160P^4R^{46}Q^{21} + 260P^7R^{45}Q^{21} + 96P^{10}R^{44}Q^{21} + 202R^{48}Q^{20} + 84P^3R^{47}Q^{20} - 15P^6R^{46}Q^{20} + \\
& 102P^9R^{45}Q^{20} - 180P^{12}R^{44}Q^{20} - 277P^2R^{48}Q^{19} + 268P^5R^{47}Q^{19} + 84P^8R^{46}Q^{19} + 4P^{11}R^{45}Q^{19} - \\
& 84PR^{49}Q^{18} - 212P^4R^{48}Q^{18} + 276P^7R^{47}Q^{18} - 109P^{10}R^{46}Q^{18} + 233R^{50}Q^{17} + 44P^3R^{49}Q^{17} - \\
& 187P^6R^{48}Q^{17} + 2P^9R^{47}Q^{17} - 140P^{12}R^{46}Q^{17} + 277P^2R^{50}Q^{16} + 206P^5R^{49}Q^{16} + 2P^8R^{48}Q^{16} - \\
& 164P^{11}R^{47}Q^{16} - 200PR^{51}Q^{15} + 133P^4R^{50}Q^{15} + 8P^7R^{49}Q^{15} - 242P^{10}R^{48}Q^{15} + 219R^{52}Q^{14} - \\
& 132P^3R^{51}Q^{14} + 113P^6R^{50}Q^{14} - 128P^9R^{49}Q^{14} - 80P^{12}R^{48}Q^{14} + 92P^2R^{52}Q^{13} - 10P^5R^{51}Q^{13} + \\
& 213P^8R^{50}Q^{13} + 216P^{11}R^{49}Q^{13} - 158PR^{53}Q^{12} + 64P^4R^{52}Q^{12} - 152P^7R^{51}Q^{12} - 43P^{10}R^{50}Q^{12} + \\
& 69R^{54}Q^{11} + 160P^3R^{53}Q^{11} + 7P^6R^{52}Q^{11} - 124P^9R^{51}Q^{11} - 300P^{12}R^{50}Q^{11} + 28P^2R^{54}Q^{10} - \\
& 228P^5R^{53}Q^{10} + 187P^8R^{52}Q^{10} - 28P^{11}R^{51}Q^{10} + 172PR^{55}Q^9 - 2P^4R^{54}Q^9 + 92P^7R^{53}Q^9 - \\
& 229P^{10}R^{52}Q^9 + 63R^{56}Q^8 + 240P^3R^{55}Q^8 + 172P^6R^{54}Q^8 - 314P^9R^{53}Q^8 - 170P^2R^{56}Q^7 + \\
& 12P^5R^{55}Q^7 - 167P^8R^{54}Q^7 - 34PR^{57}Q^6 - 227P^4R^{56}Q^6 - 228P^7R^{55}Q^6 + 34R^{58}Q^5 + \\
& 72P^3R^{57}Q^5 - 238P^6R^{56}Q^5 + 258P^2R^{58}Q^4 - 42P^5R^{57}Q^4 + 42PR^{59}Q^3 - 110P^4R^{58}Q^3 + 94R^{60}Q^2 - \\
& 268P^3R^{59}Q^2 - 66P^2R^{60}Q - 92PR^{61})
\end{aligned}$$

$$\begin{aligned}
& 12^{12}\vartheta^{12}(43Q^{86} + 6R^2Q^{83} + 59R^4Q^{80} + 17R^6Q^{77} + 34R^8Q^{74} + 65R^{10}Q^{71} + 37R^{12}Q^{68} + 33R^{14}Q^{65} + \\
& 33R^{16}Q^{62} + 60R^{18}Q^{59} + 13R^{20}Q^{56} + 47R^{22}Q^{53} + 44R^{24}Q^{50} + 27R^{26}Q^{47} + 65R^{28}Q^{44} + 58R^{30}Q^{41} + \\
& 42R^{32}Q^{38} + 39R^{34}Q^{35} + 16R^{36}Q^{32} + 52R^{38}Q^{29} + 25R^{40}Q^{26} + 41R^{42}Q^{23} + 61R^{44}Q^{20} + 8R^{46}Q^{17} + \\
& 35R^{48}Q^{14} + 7R^{50}Q^{11}) \equiv Q^{71}(Q^3 - R^2)^7 \pmod{71}
\end{aligned}$$

$$p_{10}(79t + 72) \equiv 0 \pmod{79}$$

$$\begin{aligned}
& 12\vartheta(69PQ^{20} + 20P^3Q^{19} + 41RQ^{19} + 13P^2RQ^{18} + 55PR^2Q^{17} + 70R^3Q^{16} + 39P^3R^2Q^{16} + \\
& 31P^2R^3Q^{15} + 61PR^4Q^{14} + 27R^5Q^{13} + 52P^3R^4Q^{13} + 58P^2R^5Q^{12} + 38PR^6Q^{11} + 6R^7Q^{10} + \\
& 45P^3R^6Q^{10} + 32P^2R^7Q^9 + 7PR^8Q^8 + 65R^9Q^7 + 29P^3R^8Q^7 + 49P^2R^9Q^6 + 15PR^{10}Q^5 + \\
& 18R^{11}Q^4 + 36P^3R^{10}Q^4 + 60P^2R^{11}Q^3 + 41PR^{12}Q^2 + 20R^{13}Q + 6P^3R^{12}Q + 24P^2R^{13}) \\
& = (Q^3 - R^2)^7 - 79(4Q^{21} - 69P^2Q^{20} - 20P^4Q^{19} + 36PRQ^{19} + 56R^2Q^{18} + 12P^3RQ^{18} - \\
& 36P^2R^2Q^{17} - 6PR^3Q^{16} - 39P^4R^2Q^{16} + 68R^4Q^{15} + 16P^3R^3Q^{15} - 15P^2R^4Q^{14} + 34PR^5Q^{13} - \\
& 52P^4R^4Q^{13} + 21R^6Q^{12} - 4P^3R^5Q^{12} + 15P^2R^6Q^{11} + 20PR^7Q^{10} - 45P^4R^6Q^{10} + 48R^8Q^9 + \\
& 8P^3R^7Q^9 + 42P^2R^8Q^8 - 52PR^9Q^7 - 29P^4R^8Q^7 + 38R^{10}Q^6 - 12P^3R^9Q^6 + 51P^2R^{10}Q^5 + \\
& 24PR^{11}Q^4 - 36P^4R^{10}Q^4 + 24R^{12}Q^3 - 48P^3R^{11}Q^3 - 9P^2R^{12}Q^2 - 16PR^{13}Q - 6P^4R^{12}Q + \\
& R^{14} - 24P^3R^{13})
\end{aligned}$$

$$12^4\vartheta^4(23Q^{19} + 33R^2Q^{16} + 44R^4Q^{13} + 32R^6Q^{10} + 61R^8Q^7 + 73R^{10}Q^4 + 78R^{12}Q) \equiv (Q^3 - R^2)^7 \pmod{79}$$

$$p_6(79t + 59) \equiv 0 \pmod{79}$$

$$\begin{aligned}
& 12\vartheta(8PQ^{59} + 38RQ^{58} + 17PR^2Q^{56} + 59R^3Q^{55} + 38PR^4Q^{53} + 39R^5Q^{52} + 56PR^6Q^{50} + 17R^7Q^{49} + \\
& 32PR^8Q^{47} + 25R^9Q^{46} + 70PR^{10}Q^{44} + 66R^{11}Q^{43} + 69PR^{12}Q^{41} + 16R^{13}Q^{40} + 31PR^{14}Q^{38} + \\
& 68R^{15}Q^{37} + PR^{16}Q^{35} + 7R^{17}Q^{34} + 39PR^{18}Q^{32} + 17R^{19}Q^{31} + 54PR^{20}Q^{29} + 10R^{21}Q^{28} + \\
& 40PR^{22}Q^{26} + 34R^{23}Q^{25} + 69PR^{24}Q^{23} + 54R^{25}Q^{22} + 66PR^{26}Q^{20} + 45R^{27}Q^{19} + 69PR^{28}Q^{17} + \\
& R^{29}Q^{16} + 13PR^{30}Q^{14} + 29R^{31}Q^{13} + 5PR^{32}Q^{11} + 3R^{33}Q^{10} + 76PR^{34}Q^8 + 6R^{35}Q^7 + 29PR^{36}Q^5 + \\
& 10R^{37}Q^4 + 37PR^{38}Q^2 + 59R^{39}Q) \\
& = (Q^3 - R^2)^{20} - 79(3Q^{60} - 24P^2Q^{59} - 88PRQ^{58} + 125R^2Q^{57} - 51P^2R^2Q^{56} -
\end{aligned}$$

$$\begin{aligned}
& 118PR^3Q^{55} + 182R^4Q^{54} - 114P^2R^4Q^{53} + 10PR^5Q^{52} + 98R^6Q^{51} - 168P^2R^6Q^{50} + 110PR^7Q^{49} + \\
& 121R^8Q^{48} - 96P^2R^8Q^{47} + 54PR^9Q^{46} - 82R^{10}Q^{45} - 210P^2R^{10}Q^{44} + 20PR^{11}Q^{43} + 651R^{12}Q^{42} - \\
& 207P^2R^{12}Q^{41} + 128PR^{13}Q^{40} - 871R^{14}Q^{39} - 93P^2R^{14}Q^{38} - 144PR^{15}Q^{37} + 1731R^{16}Q^{36} - \\
& 3P^2R^{16}Q^{35} + 34PR^{17}Q^{34} - 2089R^{18}Q^{33} - 117P^2R^{18}Q^{32} + 94PR^{19}Q^{31} + 2382R^{20}Q^{30} - \\
& 162P^2R^{20}Q^{29} + 116PR^{21}Q^{28} - 2052R^{22}Q^{27} - 120P^2R^{22}Q^{26} + 76PR^{23}Q^{25} + 1741R^{24}Q^{24} - \\
& 207P^2R^{24}Q^{23} + 48PR^{25}Q^{22} - 828R^{26}Q^{21} - 198P^2R^{26}Q^{20} + 78PR^{27}Q^{19} + 537R^{28}Q^{18} - \\
& 207P^2R^{28}Q^{17} + 86PR^{29}Q^{16} - 127R^{30}Q^{15} - 39P^2R^{30}Q^{14} - 66PR^{31}Q^{13} + 88R^{32}Q^{12} - \\
& 15P^2R^{32}Q^{11} + 190PR^{33}Q^{10} + 4R^{34}Q^9 - 228P^2R^{34}Q^8 + 92PR^{35}Q^7 + 33R^{36}Q^6 - 87P^2R^{36}Q^5 + \\
& 84PR^{37}Q^4 + 177R^{38}Q^3 - 111P^2R^{38}Q^2 - 174PR^{39}Q + 3R^{40}
\end{aligned}$$

$$\begin{aligned}
& 12^2\vartheta^2(71Q^{59} + 62R^2Q^{56} + 41R^4Q^{53} + 23R^6Q^{50} + 47R^8Q^{47} + 9R^{10}Q^{44} + 10R^{12}Q^{41} + 48R^{14}Q^{38} + \\
& 78R^{16}Q^{35} + 40R^{18}Q^{32} + 25R^{20}Q^{29} + 39R^{22}Q^{26} + 10R^{24}Q^{23} + 13R^{26}Q^{20} + 10R^{28}Q^{17} + 66R^{30}Q^{14} + \\
& 74R^{32}Q^{11} + 3R^{34}Q^8 + 50R^{36}Q^5 + 42R^{38}Q^2) \equiv (Q^3 - R^2)^{20} \pmod{79}
\end{aligned}$$

$$p_4(83t + 69) \equiv 0 \pmod{83}$$

$$\begin{aligned}
& 12\vartheta(69RQ^{40} + 33R^3Q^{37} + 14R^5Q^{34} + 74R^7Q^{31} + 59R^9Q^{28} + 61R^{11}Q^{25} + 61R^{13}Q^{22} + 8R^{15}Q^{19} + \\
& 24R^{17}Q^{16} + 7R^{19}Q^{13} + 3R^{21}Q^{10} + 15R^{23}Q^7 + 6R^{25}Q^4 + 62R^{27}Q) \\
& = (Q^3 - R^2)^{14} - 83(5Q^{42} - 138PRQ^{40} + 140R^2Q^{39} - 66PR^3Q^{37} + 65R^4Q^{36} - 28PR^5Q^{34} + \\
& 56R^6Q^{33} - 148PR^7Q^{31} + 161R^8Q^{30} - 118PR^9Q^{28} + 104R^{10}Q^{27} - 122PR^{11}Q^{25} + 167R^{12}Q^{24} - \\
& 122PR^{13}Q^{22} + 32R^{14}Q^{21} - 16PR^{15}Q^{19} + 73R^{16}Q^{18} - 48PR^{17}Q^{16} + 4R^{18}Q^{15} - 14PR^{19}Q^{13} + \\
& 21R^{20}Q^{12} - 6PR^{21}Q^{10} + 22R^{22}Q^9 - 30PR^{23}Q^7 + 17R^{24}Q^6 - 12PR^{25}Q^4 + 122R^{26}Q^3 - \\
& 124PR^{27}Q + 3R^{28})
\end{aligned}$$

$$p_6(83t + 62) \equiv 0 \pmod{83}$$

$$\begin{aligned}
& 12\vartheta(21PQ^{62} + 24RQ^{61} + 66PR^2Q^{59} + 18R^3Q^{58} + 78PR^4Q^{56} + 67R^5Q^{55} + 3PR^6Q^{53} + \\
& 66R^7Q^{52} + 40PR^8Q^{50} + 20R^9Q^{49} + 33PR^{10}Q^{47} + 12R^{11}Q^{46} + 80PR^{12}Q^{44} + 39R^{13}Q^{43} + \\
& 69PR^{14}Q^{41} + 63R^{15}Q^{40} + 41PR^{16}Q^{38} + 6R^{17}Q^{37} + 73PR^{18}Q^{35} + 2R^{19}Q^{34} + 2PR^{20}Q^{32} + \\
& 6R^{21}Q^{31} + 22PR^{22}Q^{29} + 76R^{23}Q^{28} + 22PR^{24}Q^{26} + 63R^{25}Q^{25} + 15PR^{26}Q^{23} + 29R^{27}Q^{22} + \\
& 30PR^{28}Q^{20} + 20R^{29}Q^{19} + 79PR^{30}Q^{17} + 81R^{31}Q^{16} + 4PR^{32}Q^{14} + 19R^{33}Q^{13} + 23PR^{34}Q^{11} + \\
& 64R^{35}Q^{10} + 74PR^{36}Q^8 + 30R^{37}Q^7 + 56PR^{38}Q^5 + 7R^{39}Q^4 + 13PR^{40}Q^2 + 21R^{41}Q) \\
& = (Q^3 - R^2)^{21} - 83(2Q^{63} - 63P^2Q^{62} + 75R^2Q^{60} - 198P^2R^2Q^{59} + 156PR^3Q^{58} + 78R^4Q^{57} - \\
& 234P^2R^4Q^{56} + 10PR^5Q^{55} + 195R^6Q^{54} - 9P^2R^6Q^{53} - 168PR^7Q^{52} + 251R^8Q^{51} - 120P^2R^8Q^{50} + \\
& 60PR^9Q^{49} - 188R^{10}Q^{48} - 99P^2R^{10}Q^{47} + 108PR^{11}Q^{46} + 718R^{12}Q^{45} - 240P^2R^{12}Q^{44} + \\
& 122PR^{13}Q^{43} - 1251R^{14}Q^{42} - 207P^2R^{14}Q^{41} - 6PR^{15}Q^{40} + 2581R^{16}Q^{39} - 123P^2R^{16}Q^{38} + \\
& 152PR^{17}Q^{37} - 3527R^{18}Q^{36} - 219P^2R^{18}Q^{35} + 120PR^{19}Q^{34} + 4262R^{20}Q^{33} - 6P^2R^{20}Q^{32} + \\
& 20PR^{21}Q^{31} - 4114R^{22}Q^{30} - 66P^2R^{22}Q^{29} - 160PR^{23}Q^{28} + 3758R^{24}Q^{27} - 66P^2R^{24}Q^{26} - \\
& 134PR^{25}Q^{25} - 2319R^{26}Q^{24} - 45P^2R^{26}Q^{23} - 10PR^{27}Q^{22} + 1474R^{28}Q^{21} - 90P^2R^{28}Q^{20} + \\
& 140PR^{29}Q^{19} - 453R^{30}Q^{18} - 237P^2R^{30}Q^{17} - 170PR^{31}Q^{16} + 353R^{32}Q^{15} - 12P^2R^{32}Q^{14} + \\
& 2PR^{33}Q^{13} + 102R^{34}Q^{12} - 69P^2R^{34}Q^{11} + 12PR^{35}Q^{10} + 128R^{36}Q^9 - 222P^2R^{36}Q^8 + 92PR^{37}Q^7 + \\
& 28R^{38}Q^6 - 168P^2R^{38}Q^5 + 30PR^{39}Q^4 + 64R^{40}Q^3 - 39P^2R^{40}Q^2 - 62PR^{41}Q + R^{42})
\end{aligned}$$

$$\begin{aligned}
& 12^2\vartheta^2(62Q^{62} + 17R^2Q^{59} + 5R^4Q^{56} + 80R^6Q^{53} + 43R^8Q^{50} + 50R^{10}Q^{47} + 3R^{12}Q^{44} + 14R^{14}Q^{41} + \\
& 42R^{16}Q^{38} + 10R^{18}Q^{35} + 81R^{20}Q^{32} + 61R^{22}Q^{29} + 61R^{24}Q^{26} + 68R^{26}Q^{23} + 53R^{28}Q^{20} + 4R^{30}Q^{17} + \\
& 79R^{32}Q^{14} + 60R^{34}Q^{11} + 9R^{36}Q^8 + 27R^{38}Q^5 + 70R^{40}Q^2) \equiv (Q^3 - R^2)^{21} \pmod{83}
\end{aligned}$$

$$p_8(83t + 55) \equiv 0 \pmod{83}$$

$$\begin{aligned}
& 12\vartheta(42PQ^{83}+62RQ^{82}+7P^2RQ^{81}+23PR^2Q^{80}+74R^3Q^{79}+9P^2R^3Q^{78}+10PR^4Q^{77}+21R^5Q^{76}+ \\
& 34P^2R^5Q^{75} + 29PR^6Q^{74} + 34R^7Q^{73} + 76P^2R^7Q^{72} + 20PR^8Q^{71} + 13R^9Q^{70} + 50P^2R^9Q^{69} + \\
& 12PR^{10}Q^{68} + 63R^{11}Q^{67} + 25P^2R^{11}Q^{66} + 71PR^{12}Q^{65} + 55R^{13}Q^{64} + 11P^2R^{13}Q^{63} + 54PR^{14}Q^{62} + \\
& 3R^{15}Q^{61} + 3P^2R^{15}Q^{60} + 68PR^{16}Q^{59} + 80R^{17}Q^{58} + 5P^2R^{17}Q^{57} + 48PR^{18}Q^{56} + 20R^{19}Q^{55} + \\
& 21P^2R^{19}Q^{54} + 75PR^{20}Q^{53} + 18R^{21}Q^{52} + 14P^2R^{21}Q^{51} + 28PR^{22}Q^{50} + 13R^{23}Q^{49} + 18P^2R^{23}Q^{48} + \\
& 6PR^{24}Q^{47} + 36R^{25}Q^{46} + 60P^2R^{25}Q^{45} + 18PR^{26}Q^{44} + 76R^{27}Q^{43} + 81P^2R^{27}Q^{42} + 71PR^{28}Q^{41} + \\
& 22R^{29}Q^{40} + 82P^2R^{29}Q^{39} + 49PR^{30}Q^{38} + 43R^{31}Q^{37} + 31P^2R^{31}Q^{36} + 72PR^{32}Q^{35} + 63R^{33}Q^{34} + \\
& 8P^2R^{33}Q^{33} + 74PR^{34}Q^{32} + 81R^{35}Q^{31} + 72P^2R^{35}Q^{30} + 40PR^{36}Q^{29} + 10R^{37}Q^{28} + 48P^2R^{37}Q^{27} + \\
& 23PR^{38}Q^{26} + 67R^{39}Q^{25} + P^2R^{39}Q^{24} + 39PR^{40}Q^{23} + 62R^{41}Q^{22} + 19P^2R^{41}Q^{21} + 50PR^{42}Q^{20} + \\
& 48R^{43}Q^{19} + 68P^2R^{43}Q^{18} + 35PR^{44}Q^{17} + 30R^{45}Q^{16} + 61P^2R^{45}Q^{15} + 11PR^{46}Q^{14} + 70R^{47}Q^{13} + \\
& 68P^2R^{47}Q^{12} + 29PR^{48}Q^{11} + 50R^{49}Q^{10} + 48P^2R^{49}Q^9 + 19PR^{50}Q^8 + 57R^{51}Q^7 + 37P^2R^{51}Q^6 + \\
& 45PR^{52}Q^5 + 79R^{53}Q^4 + 78P^2R^{53}Q^3 + 50PR^{54}Q^2 + 62R^{55}Q + 28P^2R^{55})
\end{aligned}$$

$$\begin{aligned}
& = (Q^3 - R^2)^{28} - 83(5Q^{84} - 168P^2Q^{83} - 78PRQ^{82} + 261R^2Q^{81} - 28P^3RQ^{81} - 63P^2R^2Q^{80} - \\
& 206PR^3Q^{79} + 294R^4Q^{78} - 36P^3R^3Q^{78} + 6P^2R^4Q^{77} - 34PR^5Q^{76} + 55R^6Q^{75} - 136P^3R^5Q^{75} + \\
& 45P^2R^6Q^{74} - 20PR^7Q^{73} + 375R^8Q^{72} - 304P^3R^7Q^{72} + 216P^2R^8Q^{71} + 26PR^9Q^{70} - 1090R^{10}Q^{69} - \\
& 200P^3R^9Q^{69} + 138P^2R^{10}Q^{68} - 152PR^{11}Q^{67} + 4795R^{12}Q^{66} - 100P^3R^{11}Q^{66} - 195P^2R^{12}Q^{65} + \\
& 56PR^{13}Q^{64} - 14092R^{14}Q^{63} - 44P^3R^{13}Q^{63} - 180P^2R^{14}Q^{62} + 228PR^{15}Q^{61} + 37555R^{16}Q^{60} - \\
& 12P^3R^{15}Q^{60} - 258P^2R^{16}Q^{59} - 66PR^{17}Q^{58} - 82964R^{18}Q^{57} - 20P^3R^{17}Q^{57} - 150P^2R^{18}Q^{56} + \\
& 158PR^{19}Q^{55} + 158191R^{20}Q^{54} - 84P^3R^{19}Q^{54} - 225P^2R^{20}Q^{53} + 164PR^{21}Q^{52} - 258658R^{22}Q^{51} - \\
& 56P^3R^{21}Q^{51} - 48P^2R^{22}Q^{50} + 26PR^{23}Q^{49} + 366623R^{24}Q^{48} - 72P^3R^{23}Q^{48} + 126P^2R^{24}Q^{47} - \\
& 96PR^{25}Q^{46} - 450882R^{26}Q^{45} - 240P^3R^{25}Q^{45} + 216P^2R^{26}Q^{44} - 122PR^{27}Q^{43} + 483537R^{28}Q^{42} - \\
& 324P^3R^{27}Q^{42} + 51P^2R^{28}Q^{41} + 160PR^{29}Q^{40} - 450971R^{30}Q^{39} - 328P^3R^{29}Q^{39} + 27P^2R^{30}Q^{38} + \\
& 84PR^{31}Q^{37} + 366755R^{32}Q^{36} - 124P^3R^{31}Q^{36} - 216P^2R^{32}Q^{35} + 50PR^{33}Q^{34} - 258416R^{34}Q^{33} - \\
& 32P^3R^{33}Q^{33} - 102P^2R^{34}Q^{32} - 106PR^{35}Q^{31} + 158258R^{36}Q^{30} - 288P^3R^{35}Q^{30} + 72P^2R^{36}Q^{29} + \\
& 80PR^{37}Q^{28} - 83013R^{38}Q^{27} - 192P^3R^{37}Q^{27} - 27P^2R^{38}Q^{26} - 128PR^{39}Q^{25} + 37712R^{40}Q^{24} - \\
& 4P^3R^{39}Q^{24} - 99P^2R^{40}Q^{23} - 54PR^{41}Q^{22} - 14050R^{42}Q^{21} - 76P^3R^{41}Q^{21} + 30P^2R^{42}Q^{20} - \\
& 32PR^{43}Q^{19} + 4681R^{44}Q^{18} - 272P^3R^{43}Q^{18} + 117P^2R^{44}Q^{17} - 54PR^{45}Q^{16} - 923R^{46}Q^{15} - \\
& 244P^3R^{45}Q^{15} + 231P^2R^{46}Q^{14} - 172PR^{47}Q^{13} + 468R^{48}Q^{12} - 272P^3R^{47}Q^{12} + 93P^2R^{48}Q^{11} - \\
& 116PR^{49}Q^{10} + 195R^{50}Q^9 - 192P^3R^{49}Q^9 + 81P^2R^{50}Q^8 - 52PR^{51}Q^7 + 327R^{52}Q^6 - 148P^3R^{51}Q^6 + \\
& 129P^2R^{52}Q^5 - 110PR^{53}Q^4 + 262R^{54}Q^3 - 312P^3R^{53}Q^3 - 78P^2R^{54}Q^2 - 244PR^{55}Q + 3R^{56} - \\
& 112P^3R^{55})
\end{aligned}$$

$$\begin{aligned}
& 12^3\vartheta^3(45RQ^{81}+46R^3Q^{78}+17R^5Q^{75}+38R^7Q^{72}+25R^9Q^{69}+54R^{11}Q^{66}+47R^{13}Q^{63}+43R^{15}Q^{60}+ \\
& 44R^{17}Q^{57} + 52R^{19}Q^{54} + 7R^{21}Q^{51} + 9R^{23}Q^{48} + 30R^{25}Q^{45} + 82R^{27}Q^{42} + 41R^{29}Q^{39} + 57R^{31}Q^{36} + \\
& 4R^{33}Q^{33} + 36R^{35}Q^{30} + 24R^{37}Q^{27} + 42R^{39}Q^{24} + 51R^{41}Q^{21} + 34R^{43}Q^{18} + 72R^{45}Q^{15} + 34R^{47}Q^{12} + \\
& 24R^{49}Q^9 + 60R^{51}Q^6 + 39R^{53}Q^3 + 14R^{55}) \equiv (Q^3 - R^2)^{28} \pmod{83}
\end{aligned}$$

$$p_{10}(83t + 48) \equiv 0 \pmod{83}$$

$$\begin{aligned}
& 12\vartheta(77PQ^{104} + 72P^3Q^{103} + 70RQ^{103} + 45P^2RQ^{102} + 52PR^2Q^{101} + 43R^3Q^{100} + P^3R^2Q^{100} + \\
& 60P^2R^3Q^{99} + 57R^5Q^{97} + 55P^3R^4Q^{97} + 74P^2R^5Q^{96} + 26PR^6Q^{95} + 14R^7Q^{94} + 41P^3R^6Q^{94} + \\
& 47P^2R^7Q^{93} + 49PR^8Q^{92} + 74R^9Q^{91} + 17P^3R^8Q^{91} + 26P^2R^9Q^{90} + 26PR^{10}Q^{89} + 3R^{11}Q^{88} + \\
& 55P^3R^{10}Q^{88} + 69P^2R^{11}Q^{87} + 76PR^{12}Q^{86} + 13R^{13}Q^{85} + 56P^3R^{12}Q^{85} + 58P^2R^{13}Q^{84} + \\
& 7PR^{14}Q^{83} + 59R^{15}Q^{82} + 25P^3R^{14}Q^{82} + 53P^2R^{15}Q^{81} + 31PR^{16}Q^{80} + 6R^{17}Q^{79} + 82P^3R^{16}Q^{79} + \\
& 17P^2R^{17}Q^{78} + 74PR^{18}Q^{77} + 47R^{19}Q^{76} + 10P^3R^{18}Q^{76} + 71P^2R^{19}Q^{75} + 39PR^{20}Q^{74} + 24R^{21}Q^{73} + \\
& 5P^3R^{20}Q^{73} + 35P^2R^{21}Q^{72} + 27PR^{22}Q^{71} + 5R^{23}Q^{70} + 59P^3R^{22}Q^{70} + 65P^2R^{23}Q^{69} + 18PR^{24}Q^{68} + \\
& 79R^{25}Q^{67} + 50P^3R^{24}Q^{67} + 39P^2R^{25}Q^{66} + 67PR^{26}Q^{65} + 10R^{27}Q^{64} + 33P^3R^{26}Q^{64} + 13P^2R^{27}Q^{63} + \\
& 7PR^{28}Q^{62} + 57P^3R^{28}Q^{61} + 17P^2R^{29}Q^{60} + 4PR^{30}Q^{59} + 55R^{31}Q^{58} + 69P^3R^{30}Q^{58} + 6P^2R^{31}Q^{57} + \\
& 43PR^{32}Q^{56} + 47R^{33}Q^{55} + 23P^3R^{32}Q^{55} + 33P^2R^{33}Q^{54} + 39PR^{34}Q^{53} + 7R^{35}Q^{52} + 49P^3R^{34}Q^{52} +
\end{aligned}$$

$$\begin{aligned}
& 76P^2R^{35}Q^{51} + 3PR^{36}Q^{50} + 41R^{37}Q^{49} + 50P^3R^{36}Q^{49} + 17P^2R^{37}Q^{48} + 52PR^{38}Q^{47} + 82R^{39}Q^{46} + \\
& 39P^3R^{38}Q^{46} + 58P^2R^{39}Q^{45} + 2PR^{40}Q^{44} + 3R^{41}Q^{43} + 7P^3R^{40}Q^{43} + 55P^2R^{41}Q^{42} + 15PR^{42}Q^{41} + \\
& 80R^{43}Q^{40} + 32P^3R^{42}Q^{40} + 45P^2R^{43}Q^{39} + 12PR^{44}Q^{38} + 76R^{45}Q^{37} + 49P^3R^{44}Q^{37} + 63P^2R^{45}Q^{36} + \\
& 10PR^{46}Q^{35} + 39R^{47}Q^{34} + 35P^3R^{46}Q^{34} + 52P^2R^{47}Q^{33} + 7PR^{48}Q^{32} + 46R^{49}Q^{31} + 24P^3R^{48}Q^{31} + \\
& 38P^2R^{49}Q^{30} + 52PR^{50}Q^{29} + 30R^{51}Q^{28} + 14P^3R^{50}Q^{28} + 7P^2R^{51}Q^{27} + 82PR^{52}Q^{26} + 46R^{53}Q^{25} + \\
& 49P^3R^{52}Q^{25} + 35P^2R^{53}Q^{24} + 20PR^{54}Q^{23} + 65R^{55}Q^{22} + 79P^3R^{54}Q^{22} + 77P^2R^{55}Q^{21} + \\
& 69PR^{56}Q^{20} + 41R^{57}Q^{19} + 45P^3R^{56}Q^{19} + 59P^2R^{57}Q^{18} + 34PR^{58}Q^{17} + 46R^{59}Q^{16} + 13P^3R^{58}Q^{16} + \\
& 61P^2R^{59}Q^{15} + PR^{60}Q^{14} + 30R^{61}Q^{13} + 11P^3R^{60}Q^{13} + 55P^2R^{61}Q^{12} + 23PR^{62}Q^{11} + 5R^{63}Q^{10} + \\
& 68P^3R^{62}Q^{10} + 33P^2R^{63}Q^9 + 45PR^{64}Q^8 + 6R^{65}Q^7 + P^3R^{64}Q^7 + 54P^2R^{65}Q^6 + 15PR^{66}Q^5 + \\
& 13R^{67}Q^4 + 3P^3R^{66}Q^4 + 47P^2R^{67}Q^3 + 27PR^{68}Q^2 + 21R^{69}Q + 12P^3R^{68}Q + 48P^2R^{69})
\end{aligned}$$

$$\begin{aligned}
& = (Q^3 - R^2)^{35} - 83(6Q^{105} - 381P^2Q^{104} - 360P^4Q^{103} + 42PRQ^{103} + 357R^2Q^{102} + \\
& 132P^3RQ^{102} - 27P^2R^2Q^{101} + 38PR^3Q^{100} - 5P^4R^2Q^{100} + 235R^4Q^{99} - 280P^3R^3Q^{99} + \\
& 315P^2R^4Q^{98} - 274PR^5Q^{97} - 275P^4R^4Q^{97} + 195R^6Q^{96} - 96P^3R^5Q^{96} + 237P^2R^6Q^{95} + \\
& 78PR^7Q^{94} - 205P^4R^6Q^{94} + 743R^8Q^{93} - 40P^3R^7Q^{93} - 18P^2R^8Q^{92} - 136PR^9Q^{91} - \\
& 85P^4R^8Q^{91} - 3584R^{10}Q^{90} - 16P^3R^9Q^{90} + 39P^2R^{10}Q^{89} + 164PR^{11}Q^{88} - 275P^4R^{10}Q^{88} + \\
& 19582R^{12}Q^{87} - 64P^3R^{11}Q^{87} - 36P^2R^{12}Q^{86} + 258PR^{13}Q^{85} - 280P^4R^{12}Q^{85} - 80901R^{14}Q^{84} - \\
& 36P^3R^{13}Q^{84} + 258P^2R^{14}Q^{83} - 232PR^{15}Q^{82} - 125P^4R^{14}Q^{82} + 283805R^{16}Q^{81} - 72P^3R^{15}Q^{81} + \\
& 75P^2R^{16}Q^{80} + 186PR^{17}Q^{79} - 410P^4R^{16}Q^{79} - 850604R^{18}Q^{78} + 240P^3R^{17}Q^{78} - 210P^2R^{18}Q^{77} + \\
& 96PR^{19}Q^{76} - 50P^4R^{18}Q^{76} + 2212009R^{20}Q^{75} - 312P^3R^{19}Q^{75} + 114P^2R^{20}Q^{74} + 62PR^{21}Q^{73} - \\
& 25P^4R^{20}Q^{73} - 5026725R^{22}Q^{72} - 64P^3R^{21}Q^{72} + 96P^2R^{22}Q^{71} + 100PR^{23}Q^{70} - 295P^4R^{22}Q^{70} + \\
& 10053796R^{24}Q^{69} - 40P^3R^{23}Q^{69} + 198P^2R^{24}Q^{68} - 212PR^{25}Q^{67} - 250P^4R^{24}Q^{67} - \\
& 17786927R^{26}Q^{66} + 28P^3R^{25}Q^{66} - 186P^2R^{26}Q^{65} + 174PR^{27}Q^{64} - 165P^4R^{26}Q^{64} + \\
& 27951349R^{28}Q^{63} + 152P^3R^{27}Q^{63} + 42P^2R^{28}Q^{62} + 30PR^{29}Q^{61} - 285P^4R^{28}Q^{61} - \\
& 39131722R^{30}Q^{60} + 232P^3R^{29}Q^{60} + 45P^2R^{30}Q^{59} - 166PR^{31}Q^{58} - 345P^4R^{30}Q^{58} + \\
& 48915073R^{32}Q^{57} + 216P^3R^{31}Q^{57} - 120P^2R^{32}Q^{56} - 24PR^{33}Q^{55} - 115P^4R^{32}Q^{55} - \\
& 54669347R^{34}Q^{54} + 16P^3R^{33}Q^{54} + 84P^2R^{34}Q^{53} + 74PR^{35}Q^{52} - 245P^4R^{34}Q^{52} + \\
& 54669617R^{36}Q^{51} - 128P^3R^{35}Q^{51} + 219P^2R^{36}Q^{50} - 56PR^{37}Q^{49} - 250P^4R^{36}Q^{49} - \\
& 48914478R^{38}Q^{48} + 140P^3R^{37}Q^{48} - 57P^2R^{38}Q^{47} - 288PR^{39}Q^{46} - 195P^4R^{38}Q^{46} + \\
& 39132036R^{40}Q^{45} - 184P^3R^{39}Q^{45} + 279P^2R^{40}Q^{44} + 36PR^{41}Q^{43} - 35P^4R^{40}Q^{43} - \\
& 27951063R^{42}Q^{42} - 164P^3R^{41}Q^{42} + 177P^2R^{42}Q^{41} - 334PR^{43}Q^{40} - 160P^4R^{42}Q^{40} + \\
& 17787604R^{44}Q^{39} - 8P^3R^{43}Q^{39} + 231P^2R^{44}Q^{38} - 326PR^{45}Q^{37} - 245P^4R^{44}Q^{37} - \\
& 10053368R^{46}Q^{36} - 112P^3R^{45}Q^{36} + 237P^2R^{46}Q^{35} - 154PR^{47}Q^{34} - 175P^4R^{46}Q^{34} + \\
& 5027045R^{48}Q^{33} - 120P^3R^{47}Q^{33} + 183P^2R^{48}Q^{32} - 32PR^{49}Q^{31} - 120P^4R^{48}Q^{31} - \\
& 2211620R^{50}Q^{30} - 104P^3R^{49}Q^{30} - 180P^2R^{50}Q^{29} + 230PR^{51}Q^{28} - 70P^4R^{50}Q^{28} + 850910R^{52}Q^{27} + \\
& 168P^3R^{51}Q^{27} - 267P^2R^{52}Q^{26} - 50PR^{53}Q^{25} - 245P^4R^{52}Q^{25} - 283250R^{54}Q^{24} + 192P^3R^{53}Q^{24} + \\
& 249P^2R^{54}Q^{23} - 24PR^{55}Q^{22} - 395P^4R^{54}Q^{22} + 81257R^{56}Q^{21} - 120P^3R^{55}Q^{21} - 24P^2R^{56}Q^{20} + \\
& 4PR^{57}Q^{19} - 225P^4R^{56}Q^{19} - 19322R^{58}Q^{18} - 200P^3R^{57}Q^{18} + 141P^2R^{58}Q^{17} - 198PR^{59}Q^{16} - \\
& 65P^4R^{58}Q^{16} + 4079R^{60}Q^{15} - 248P^3R^{59}Q^{15} + 282P^2R^{60}Q^{14} - 46PR^{61}Q^{13} - 55P^4R^{60}Q^{13} - \\
& 589R^{62}Q^{12} + 36P^3R^{61}Q^{12} + 69P^2R^{62}Q^{11} + 196PR^{63}Q^{10} - 340P^4R^{62}Q^{10} + 110R^{64}Q^9 - \\
& 128P^3R^{63}Q^9 + 42P^2R^{64}Q^8 + 60PR^{65}Q^7 - 5P^4R^{64}Q^7 + 58R^{66}Q^6 - 256P^3R^{65}Q^6 + \\
& 168P^2R^{66}Q^5 + 72PR^{67}Q^4 - 15P^4R^{66}Q^4 + 108R^{68}Q^3 - 176P^3R^{67}Q^3 + 111P^2R^{68}Q^2 - \\
& 102PR^{69}Q - 60P^4R^{68}Q + R^{70} - 240P^3R^{69})
\end{aligned}$$

$$\begin{aligned}
& 124\vartheta^4(71Q^{103} + 69R^2Q^{100} + 60R^4Q^{97} + 7R^6Q^{94} + 11R^8Q^{91} + 60R^{10}Q^{88} + 46R^{12}Q^{85} + 65R^{14}Q^{82} + \\
& 14R^{16}Q^{79} + 26R^{18}Q^{76} + 13R^{20}Q^{73} + 4R^{22}Q^{70} + 47R^{24}Q^{67} + 36R^{26}Q^{64} + 32R^{28}Q^{61} + 30R^{30}Q^{58} + \\
& 10R^{32}Q^{55} + 61R^{34}Q^{52} + 47R^{36}Q^{49} + 35R^{38}Q^{46} + 68R^{40}Q^{43} + 50R^{42}Q^{40} + 61R^{44}Q^{37} + 8R^{46}Q^{34} + \\
& 79R^{48}Q^{31} + 53R^{50}Q^{28} + 61R^{52}Q^{25} + 56R^{54}Q^{22} + 34R^{56}Q^{19} + 67R^{58}Q^{16} + 12R^{60}Q^{13} + 44R^{62}Q^{10} + \\
& 69R^{64}Q^7 + 41R^{66}Q^4 + 81R^{68}Q) \equiv (Q^3 - R^2)^{35} \pmod{83}
\end{aligned}$$

$$p_{14}(83t + 34) \equiv 0 \pmod{83}$$

$$\begin{aligned}
& 12\vartheta(2PQ^{146} + 74P^3Q^{145} + 41RQ^{145} + 46P^5Q^{144} + 75P^2RQ^{144} + 11PR^2Q^{143} + 14P^4RQ^{143} + \\
& 9R^3Q^{142} + 41P^3R^2Q^{142} + 81P^2R^3Q^{141} + 48P^5R^2Q^{141} + 20PR^4Q^{140} + 72P^4R^3Q^{140} + \\
& 48P^3R^4Q^{139} + 41P^2R^5Q^{138} + 37P^5R^4Q^{138} + 14PR^6Q^{137} + 17P^4R^5Q^{137} + 51R^7Q^{136} + \\
& 51P^3R^6Q^{136} + 26P^2R^7Q^{135} + 81P^5R^6Q^{135} + 64PR^8Q^{134} + 18P^4R^7Q^{134} + 68R^9Q^{133} + \\
& 55P^3R^8Q^{133} + 66P^2R^9Q^{132} + 54P^5R^8Q^{132} + 57PR^{10}Q^{131} + 52P^4R^9Q^{131} + 49R^{11}Q^{130} + \\
& 24P^3R^{10}Q^{130} + 78P^2R^{11}Q^{129} + 79P^5R^{10}Q^{129} + 21PR^{12}Q^{128} + 56P^4R^{11}Q^{128} + 49R^{13}Q^{127} + \\
& 32P^3R^{12}Q^{127} + P^2R^{13}Q^{126} + 11P^5R^{12}Q^{126} + 32PR^{14}Q^{125} + 72P^4R^{13}Q^{125} + 6R^{15}Q^{124} + \\
& 59P^3R^{14}Q^{124} + 4P^2R^{15}Q^{123} + 6P^5R^{14}Q^{123} + 67PR^{16}Q^{122} + 75P^4R^{15}Q^{122} + 16R^{17}Q^{121} + \\
& 38P^3R^{16}Q^{121} + 5P^2R^{17}Q^{120} + 66P^5R^{16}Q^{120} + 13PR^{18}Q^{119} + 13P^4R^{17}Q^{119} + 43R^{19}Q^{118} + \\
& 53P^3R^{18}Q^{118} + 53P^2R^{19}Q^{117} + 58P^5R^{18}Q^{117} + 69PR^{20}Q^{116} + 14P^4R^{19}Q^{116} + 59R^{21}Q^{115} + \\
& 49P^3R^{20}Q^{115} + 67P^2R^{21}Q^{114} + 16P^5R^{20}Q^{114} + 41PR^{22}Q^{113} + 25P^4R^{21}Q^{113} + 26R^{23}Q^{112} + \\
& 57P^3R^{22}Q^{112} + 45P^2R^{23}Q^{111} + 21P^5R^{22}Q^{111} + 3PR^{24}Q^{110} + 9P^4R^{23}Q^{110} + 75R^{25}Q^{109} + \\
& 81P^3R^{24}Q^{109} + 13P^2R^{25}Q^{108} + 65P^5R^{24}Q^{108} + 39PR^{26}Q^{107} + 45P^4R^{25}Q^{107} + 33R^{27}Q^{106} + \\
& 68P^3R^{26}Q^{106} + 5P^2R^{27}Q^{105} + 23P^5R^{26}Q^{105} + 73PR^{28}Q^{104} + 58P^4R^{27}Q^{104} + 8R^{29}Q^{103} + \\
& 42P^3R^{28}Q^{103} + 28P^2R^{29}Q^{102} + 13P^5R^{28}Q^{102} + 47PR^{30}Q^{101} + 47P^4R^{29}Q^{101} + 16R^{31}Q^{100} + \\
& 49P^3R^{30}Q^{100} + 16P^2R^{31}Q^{99} + 81P^5R^{30}Q^{99} + 76PR^{32}Q^{98} + 52P^4R^{31}Q^{98} + 54R^{33}Q^{97} + \\
& 70P^3R^{32}Q^{97} + 28P^2R^{33}Q^{96} + 58P^5R^{32}Q^{96} + 56PR^{34}Q^{95} + 69P^4R^{33}Q^{95} + 27R^{35}Q^{94} + \\
& P^3R^{34}Q^{94} + 4P^2R^{35}Q^{93} + 12P^5R^{34}Q^{93} + 60PR^{36}Q^{92} + 63P^4R^{35}Q^{92} + 82R^{37}Q^{91} + 74P^3R^{36}Q^{91} + \\
& 36P^2R^{37}Q^{90} + 73P^5R^{36}Q^{90} + 67PR^{38}Q^{89} + 49P^4R^{37}Q^{89} + 42R^{39}Q^{88} + 30P^3R^{38}Q^{88} + \\
& 12P^5R^{38}Q^{87} + 17PR^{40}Q^{86} + 12P^4R^{39}Q^{86} + 2R^{41}Q^{85} + 72P^3R^{40}Q^{85} + 77P^2R^{41}Q^{84} + \\
& 20P^5R^{40}Q^{84} + 50PR^{42}Q^{83} + 61P^4R^{41}Q^{83} + 54R^{43}Q^{82} + 25P^3R^{42}Q^{82} + 35P^2R^{43}Q^{81} + \\
& 49P^5R^{42}Q^{81} + 41PR^{44}Q^{80} + 6P^4R^{43}Q^{80} + 78R^{45}Q^{79} + P^3R^{44}Q^{79} + 21P^2R^{45}Q^{78} + 21P^5R^{44}Q^{78} + \\
& 68PR^{46}Q^{77} + 42P^4R^{45}Q^{77} + 42R^{47}Q^{76} + 9P^3R^{46}Q^{76} + 78P^2R^{47}Q^{75} + 54P^5R^{46}Q^{75} + 56PR^{48}Q^{74} + \\
& 38P^4R^{47}Q^{74} + 27R^{49}Q^{73} + 49P^3R^{48}Q^{73} + 24P^5R^{48}Q^{72} + 8PR^{50}Q^{71} + 17P^4R^{49}Q^{71} + \\
& 55R^{51}Q^{70} + 55P^3R^{50}Q^{70} + 53P^2R^{51}Q^{69} + 78P^5R^{50}Q^{69} + 18PR^{52}Q^{68} + 56P^4R^{51}Q^{68} + \\
& 37R^{53}Q^{67} + 47P^3R^{52}Q^{67} + 36P^2R^{53}Q^{66} + 61P^5R^{52}Q^{66} + 48PR^{54}Q^{65} + 30P^4R^{53}Q^{65} + \\
& 28R^{55}Q^{64} + 82P^3R^{54}Q^{64} + 48P^2R^{55}Q^{63} + 38P^5R^{54}Q^{63} + 45PR^{56}Q^{62} + 12P^4R^{55}Q^{62} + \\
& 12R^{57}Q^{61} + 5P^3R^{56}Q^{61} + 27P^2R^{57}Q^{60} + 16P^5R^{56}Q^{60} + 81PR^{58}Q^{59} + 44P^4R^{57}Q^{59} + 66R^{59}Q^{58} + \\
& 6P^3R^{58}Q^{58} + 74P^2R^{59}Q^{57} + 74P^5R^{58}Q^{57} + 53PR^{60}Q^{56} + 55P^4R^{59}Q^{56} + 5R^{61}Q^{55} + 63P^3R^{60}Q^{55} + \\
& 13P^5R^{60}Q^{54} + 13PR^{62}Q^{53} + 52P^4R^{61}Q^{53} + 78R^{63}Q^{52} + 55P^3R^{62}Q^{52} + 21P^2R^{63}Q^{51} + \\
& 39P^5R^{62}Q^{51} + 75PR^{64}Q^{50} + 49P^4R^{63}Q^{50} + 79R^{65}Q^{49} + 44P^3R^{64}Q^{49} + 75P^2R^{65}Q^{48} + \\
& 73P^5R^{64}Q^{48} + 82PR^{66}Q^{47} + 8P^4R^{65}Q^{47} + 28R^{67}Q^{46} + 20P^3R^{66}Q^{46} + 40P^2R^{67}Q^{45} + \\
& 82P^5R^{66}Q^{45} + 12PR^{68}Q^{44} + 42P^4R^{67}Q^{44} + 29R^{69}Q^{43} + 82P^3R^{68}Q^{43} + 11P^2R^{69}Q^{42} + \\
& 75P^5R^{68}Q^{42} + 67PR^{70}Q^{41} + 50P^4R^{69}Q^{41} + 82R^{71}Q^{40} + P^3R^{70}Q^{40} + 7P^2R^{71}Q^{39} + 63P^5R^{70}Q^{39} + \\
& 80PR^{72}Q^{38} + 41P^4R^{71}Q^{38} + 4R^{73}Q^{37} + 31P^3R^{72}Q^{37} + 49P^2R^{73}Q^{36} + 59P^5R^{72}Q^{36} + 76PR^{74}Q^{35} + \\
& 4P^4R^{73}Q^{35} + 57R^{75}Q^{34} + 81P^3R^{74}Q^{34} + 61P^2R^{75}Q^{33} + 22P^5R^{74}Q^{33} + 38PR^{76}Q^{32} + \\
& 59P^4R^{75}Q^{32} + 82R^{77}Q^{31} + 60P^3R^{76}Q^{31} + 40P^2R^{77}Q^{30} + 46P^5R^{76}Q^{30} + 46PR^{78}Q^{29} + \\
& 33P^4R^{77}Q^{29} + 38R^{79}Q^{28} + 16P^3R^{78}Q^{28} + 56P^2R^{79}Q^{27} + 75P^5R^{78}Q^{27} + 80PR^{80}Q^{26} + \\
& 32P^4R^{79}Q^{26} + 26R^{81}Q^{25} + 42P^3R^{80}Q^{25} + 59P^2R^{81}Q^{24} + 24P^5R^{80}Q^{24} + 29PR^{82}Q^{23} + \\
& 59P^4R^{81}Q^{23} + 14R^{83}Q^{22} + 32P^3R^{82}Q^{22} + 16P^2R^{83}Q^{21} + 56P^5R^{82}Q^{21} + 32PR^{84}Q^{20} + \\
& 60P^4R^{83}Q^{20} + 69R^{85}Q^{19} + 52P^3R^{84}Q^{19} + 24P^2R^{85}Q^{18} + 56P^5R^{84}Q^{18} + 8PR^{86}Q^{17} + \\
& 28P^4R^{85}Q^{17} + 43R^{87}Q^{16} + 18P^3R^{86}Q^{16} + 17P^2R^{87}Q^{15} + 45P^5R^{86}Q^{15} + 46PR^{88}Q^{14} + \\
& 20P^4R^{87}Q^{14} + 41R^{89}Q^{13} + 63P^3R^{88}Q^{13} + 43P^2R^{89}Q^{12} + 49P^5R^{88}Q^{12} + 66PR^{90}Q^{11} + \\
& 14P^4R^{89}Q^{11} + 35R^{91}Q^{10} + 68P^3R^{90}Q^{10} + 62P^2R^{91}Q^9 + 55P^5R^{90}Q^9 + 44PR^{92}Q^8 + 69P^4R^{91}Q^8 + \\
& 23R^{93}Q^7 + 74P^3R^{92}Q^7 + 81P^2R^{93}Q^6 + 43P^5R^{92}Q^6 + 27PR^{94}Q^5 + 52P^4R^{93}Q^5 + 22R^{95}Q^4 + \\
& 71P^3R^{94}Q^4 + 58P^2R^{95}Q^3 + 43P^5R^{94}Q^3 + 76PR^{96}Q^2 + 71P^4R^{95}Q^2 + 21R^{97}Q + 50P^3R^{96}Q + \\
& 39P^2R^{97} + 6P^5R^{96})
\end{aligned}$$

$$\begin{aligned}
&= (Q^3 - R^2)^{49} - 83(3Q^{147} - 6P^2Q^{146} - 516P^4Q^{145} - 272PRQ^{145} - 322P^6Q^{144} + \\
&288R^2Q^{144} - 4P^3RQ^{144} + 462P^2R^2Q^{143} + 228P^5RQ^{143} + 20PR^3Q^{142} - 173P^4R^2Q^{142} + \\
&76R^4Q^{141} - 272P^3R^3Q^{141} - 336P^6R^2Q^{141} + 426P^2R^4Q^{140} - 168P^5R^3Q^{140} + 142PR^5Q^{139} + \\
&157P^4R^4Q^{139} - 196R^6Q^{138} + 56P^3R^5Q^{138} - 259P^6R^4Q^{138} + 189P^2R^6Q^{137} + 162P^5R^5Q^{137} - \\
&230PR^7Q^{136} - 232P^4R^6Q^{136} + 2932R^8Q^{135} + 184P^3R^7Q^{135} - 567P^6R^6Q^{135} - 237P^2R^8Q^{134} + \\
&432P^5R^7Q^{134} - 24PR^9Q^{133} - 233P^4R^8Q^{133} - 22499R^{10}Q^{132} - 92P^3R^9Q^{132} - 378P^6R^8Q^{132} + \\
&81P^2R^{10}Q^{131} + 36P^5R^9Q^{131} + 34PR^{11}Q^{130} + 209P^4R^{10}Q^{130} + 168833R^{12}Q^{129} - 368P^3R^{11}Q^{129} - \\
&553P^6R^{10}Q^{129} + 339P^2R^{12}Q^{128} + 108P^5R^{11}Q^{128} - 184PR^{13}Q^{127} + 189P^4R^{12}Q^{127} - \\
&1034640R^{14}Q^{126} + 252P^3R^{13}Q^{126} - 77P^6R^{12}Q^{126} - 213P^2R^{14}Q^{125} - 432P^5R^{13}Q^{125} + \\
&228PR^{15}Q^{124} + 101P^4R^{14}Q^{124} + 5433527R^{16}Q^{123} + 372P^3R^{15}Q^{123} - 42P^6R^{14}Q^{123} - \\
&441P^2R^{16}Q^{122} - 414P^5R^{15}Q^{122} + 298PR^{17}Q^{121} + 194P^4R^{16}Q^{121} - 24752325R^{18}Q^{120} + \\
&256P^3R^{17}Q^{120} - 462P^6R^{16}Q^{120} + 12P^2R^{18}Q^{119} + 366P^5R^{17}Q^{119} - 128PR^{19}Q^{118} - \\
&275P^4R^{18}Q^{118} + 99010245R^{20}Q^{117} - 406P^6R^{18}Q^{117} - 84P^2R^{20}Q^{116} + 252P^5R^{19}Q^{116} + \\
&36PR^{21}Q^{115} - 227P^4R^{20}Q^{115} - 351034765R^{22}Q^{114} - 108P^3R^{21}Q^{114} - 112P^6R^{20}Q^{114} + \\
&156P^2R^{22}Q^{113} - 54P^5R^{21}Q^{113} + 46PR^{23}Q^{112} - 248P^4R^{22}Q^{112} + 1111611539R^{24}Q^{111} + \\
&132P^3R^{23}Q^{111} - 147P^6R^{22}Q^{111} + 246P^2R^{24}Q^{110} + 162P^5R^{23}Q^{110} - 440PR^{25}Q^{109} - \\
&436P^4R^{24}Q^{109} - 3163816213R^{26}Q^{108} + 464P^3R^{25}Q^{108} - 455P^6R^{24}Q^{108} - 195P^2R^{26}Q^{107} + \\
&66P^5R^{25}Q^{107} + 116PR^{27}Q^{106} - 131P^4R^{26}Q^{106} + 8135528771R^{28}Q^{105} + 400P^3R^{27}Q^{105} - \\
&161P^6R^{26}Q^{105} - 429P^2R^{28}Q^{104} - 264P^5R^{27}Q^{104} + 412PR^{29}Q^{103} + 95P^4R^{28}Q^{103} - \\
&18982899955R^{30}Q^{102} + 120P^3R^{29}Q^{102} - 91P^6R^{28}Q^{102} - 156P^2R^{30}Q^{101} - 90P^5R^{29}Q^{101} + \\
&292PR^{31}Q^{100} + 6P^4R^{30}Q^{100} + 40338662773R^{32}Q^{99} + 288P^3R^{31}Q^{99} - 567P^6R^{30}Q^{99} - \\
&390P^2R^{32}Q^{98} + 156P^5R^{31}Q^{98} + 116PR^{33}Q^{97} - 78P^4R^{32}Q^{97} - 78304462307R^{34}Q^{96} + \\
&136P^3R^{33}Q^{96} - 406P^6R^{32}Q^{96} - 255P^2R^{34}Q^{95} - 186P^5R^{33}Q^{95} + 222PR^{35}Q^{94} + 469P^4R^{34}Q^{94} + \\
&139207933904R^{36}Q^{93} + 172P^3R^{35}Q^{93} - 84P^6R^{34}Q^{93} - 306P^2R^{36}Q^{92} - 198P^5R^{35}Q^{92} - \\
&128PR^{37}Q^{91} - 105P^4R^{36}Q^{91} - 227128733227R^{38}Q^{90} + 156P^3R^{37}Q^{90} - 511P^6R^{36}Q^{90} - \\
&315P^2R^{38}Q^{89} + 6P^5R^{37}Q^{89} + 40PR^{39}Q^{88} + 34P^4R^{38}Q^{88} + 340693100743R^{40}Q^{87} + \\
&336P^3R^{39}Q^{87} - 84P^6R^{38}Q^{87} + 111P^2R^{40}Q^{86} + 24P^5R^{39}Q^{86} + 210PR^{41}Q^{85} - 274P^4R^{40}Q^{85} - \\
&470480948214R^{42}Q^{84} - 168P^3R^{41}Q^{84} - 140P^6R^{40}Q^{84} + 69P^2R^{42}Q^{83} - 198P^5R^{41}Q^{83} - \\
&50PR^{43}Q^{82} + 90P^4R^{42}Q^{82} + 598793934783R^{44}Q^{81} - 144P^3R^{43}Q^{81} - 343P^6R^{42}Q^{81} - \\
&84P^2R^{44}Q^{80} + 216P^5R^{43}Q^{80} - 166PR^{45}Q^{79} + 154P^4R^{44}Q^{79} - 702932009408R^{46}Q^{78} - \\
&112P^3R^{45}Q^{78} - 147P^6R^{44}Q^{78} - 135P^2R^{46}Q^{77} - 36P^5R^{45}Q^{77} + 152PR^{47}Q^{76} + 225P^4R^{46}Q^{76} + \\
&761509677586R^{48}Q^{75} - 344P^3R^{47}Q^{75} - 378P^6R^{46}Q^{75} - 111P^2R^{48}Q^{74} + 12P^5R^{47}Q^{74} + \\
&38PR^{49}Q^{73} - 147P^4R^{48}Q^{73} - 761509677038R^{50}Q^{72} + 372P^3R^{49}Q^{72} - 168P^6R^{48}Q^{72} + \\
&141P^2R^{50}Q^{71} + 246P^5R^{49}Q^{71} - 292PR^{51}Q^{70} - 117P^4R^{50}Q^{70} + 702932010176R^{52}Q^{69} - \\
&8P^3R^{51}Q^{69} - 546P^6R^{50}Q^{69} + 189P^2R^{52}Q^{68} + 96P^5R^{51}Q^{68} - 14PR^{53}Q^{67} - 28P^4R^{52}Q^{67} - \\
&598793934084R^{54}Q^{66} + 220P^3R^{53}Q^{66} - 427P^6R^{52}Q^{66} - 30P^2R^{54}Q^{65} + 132P^5R^{53}Q^{65} + \\
&136PR^{55}Q^{64} - 432P^4R^{54}Q^{64} + 470480948527R^{56}Q^{63} - 64P^3R^{55}Q^{63} - 266P^6R^{54}Q^{63} - \\
&60P^2R^{56}Q^{62} + 96P^5R^{55}Q^{62} + 390PR^{57}Q^{61} + 183P^4R^{56}Q^{61} - 340693100241R^{58}Q^{60} - \\
&148P^3R^{57}Q^{60} - 112P^6R^{56}Q^{60} - 177P^2R^{58}Q^{59} + 48P^5R^{57}Q^{59} - 4PR^{59}Q^{58} + 322P^4R^{58}Q^{58} + \\
&227128733913R^{60}Q^{57} - 228P^3R^{59}Q^{57} - 518P^6R^{58}Q^{57} - 168P^2R^{60}Q^{56} - 126P^5R^{59}Q^{56} + \\
&166PR^{61}Q^{55} - 64P^4R^{60}Q^{55} - 139207933193R^{62}Q^{54} + 416P^3R^{61}Q^{54} - 91P^6R^{60}Q^{54} + \\
&6P^2R^{62}Q^{53} - 156P^5R^{61}Q^{53} - 170PR^{63}Q^{52} - 28P^4R^{62}Q^{52} + 78304463196R^{64}Q^{51} + \\
&196P^3R^{63}Q^{51} - 273P^6R^{62}Q^{51} - 123P^2R^{64}Q^{50} + 90P^5R^{63}Q^{50} + 16PR^{65}Q^{49} - 149P^4R^{64}Q^{49} - \\
&40338662243R^{66}Q^{48} - 328P^3R^{65}Q^{48} - 511P^6R^{64}Q^{48} - 210P^2R^{66}Q^{47} + 504P^5R^{65}Q^{47} + \\
&48PR^{67}Q^{46} + 86P^4R^{66}Q^{46} + 18982900238R^{68}Q^{45} + 168P^3R^{67}Q^{45} - 574P^6R^{66}Q^{45} + \\
&60P^2R^{68}Q^{44} + 252P^5R^{67}Q^{44} + 160PR^{69}Q^{43} - 233P^4R^{68}Q^{43} - 8135528103R^{70}Q^{42} + \\
&100P^3R^{69}Q^{42} - 525P^6R^{68}Q^{42} - 414P^2R^{70}Q^{41} + 120P^5R^{69}Q^{41} - 30PR^{71}Q^{40} + 306P^4R^{70}Q^{40} + \\
&3163816852R^{72}Q^{39} + 116P^3R^{71}Q^{39} - 441P^6R^{70}Q^{39} - 291P^2R^{72}Q^{38} + 138P^5R^{71}Q^{38} + \\
&526PR^{73}Q^{37} - 118P^4R^{72}Q^{37} - 1111610946R^{74}Q^{36} + 144P^3R^{73}Q^{36} - 413P^6R^{72}Q^{36} -
\end{aligned}$$

$$\begin{aligned}
& 117P^2R^74Q^{35} + 192P^5R^73Q^{35} - 64PR^75Q^{34} - 241P^4R^74Q^{34} + 351035686R^76Q^{33} + 36P^3R^75Q^{33} - \\
& 154P^6R^74Q^{33} + 54P^2R^76Q^{32} - 126P^5R^75Q^{32} - 260PR^77Q^{31} - 144P^4R^76Q^{31} - 99009570R^78Q^{30} - \\
& 100P^3R^77Q^{30} - 322P^6R^76Q^{30} + 54P^2R^78Q^{29} + 258P^5R^77Q^{29} + 260PR^79Q^{28} + 121P^4R^78Q^{28} + \\
& 24752682R^{80}Q^{27} - 128P^3R^79Q^{27} - 525P^6R^78Q^{27} - 144P^2R^{80}Q^{26} + 12P^5R^79Q^{26} + 90PR^{81}Q^{25} + \\
& 92P^4R^{80}Q^{25} - 5433355R^{82}Q^{24} - 172P^3R^{81}Q^{24} - 168P^6R^{80}Q^{24} - 39P^2R^{82}Q^{23} - 54P^5R^{81}Q^{23} + \\
& 128PR^{83}Q^{22} + 204P^4R^{82}Q^{22} + 1035386R^{84}Q^{21} + 240P^3R^{83}Q^{21} - 392P^6R^{82}Q^{21} - 60P^2R^{84}Q^{20} - \\
& 24P^5R^{83}Q^{20} - 406PR^{85}Q^{19} - 132P^4R^{84}Q^{19} - 168146R^{86}Q^{18} - 8P^3R^{85}Q^{18} - 392P^6R^{84}Q^{18} + \\
& 72P^2R^{86}Q^{17} + 132P^5R^{85}Q^{17} - 4PR^{87}Q^{16} + 25P^4R^{86}Q^{16} + 23272R^{88}Q^{15} + 296P^3R^{87}Q^{15} - \\
& 315P^6R^{86}Q^{15} - 33P^2R^{88}Q^{14} + 204P^5R^{87}Q^{14} + 172PR^{89}Q^{13} - 336P^4R^{88}Q^{13} - 2296R^{90}Q^{12} + \\
& 180P^3R^{89}Q^{12} - 343P^6R^{88}Q^{12} - 30P^2R^{90}Q^{11} + 288P^5R^{89}Q^{11} + 82PR^{91}Q^{10} - 13P^4R^{90}Q^{10} + \\
& 394R^{92}Q^9 + 92P^3R^{91}Q^9 - 385P^6R^{90}Q^9 + 264P^2R^{92}Q^8 - 174P^5R^{91}Q^8 + 40PR^{93}Q^7 - \\
& 141P^4R^{92}Q^7 + 145R^{94}Q^6 - 60P^3R^{93}Q^6 - 301P^6R^{92}Q^6 + 234P^2R^{94}Q^5 - 60P^5R^{93}Q^5 + \\
& 380PR^{95}Q^4 + 4P^4R^{94}Q^4 + 153R^{96}Q^3 - 44P^3R^{95}Q^3 - 301P^6R^{94}Q^3 - 252P^2R^{96}Q^2 - \\
& 450P^5R^{95}Q^2 - 140PR^{97}Q - 344P^4R^{96}Q + R^{98} - 272P^3R^{97} - 42P^6R^{96})
\end{aligned}$$

$$\begin{aligned}
& 12^6\vartheta^6(Q^{144} + 66R^2Q^{141} + 82R^4Q^{138} + 18R^6Q^{135} + 12R^8Q^{132} + 36R^{10}Q^{129} + 67R^{12}Q^{126} + \\
& 29R^{14}Q^{123} + 70R^{16}Q^{120} + 59R^{18}Q^{117} + 22R^{20}Q^{114} + 60R^{22}Q^{111} + 79R^{24}Q^{108} + 42R^{26}Q^{105} + \\
& 49R^{28}Q^{102} + 18R^{30}Q^{99} + 59R^{32}Q^{96} + 58R^{34}Q^{93} + 7R^{36}Q^{90} + 58R^{38}Q^{87} + 69R^{40}Q^{84} + 57R^{42}Q^{81} + \\
& 60R^{44}Q^{78} + 12R^{46}Q^{75} + 33R^{48}Q^{72} + 45R^{50}Q^{69} + 32R^{52}Q^{66} + 73R^{54}Q^{63} + 22R^{56}Q^{60} + 81R^{58}Q^{57} + \\
& 49R^{60}Q^{54} + 64R^{62}Q^{51} + 7R^{64}Q^{48} + 9R^{66}Q^{45} + 72R^{68}Q^{42} + 14R^{70}Q^{39} + 50R^{72}Q^{36} + 51R^{74}Q^{33} + \\
& R^{76}Q^{30} + 72R^{78}Q^{27} + 33R^{80}Q^{24} + 77R^{82}Q^{21} + 77R^{84}Q^{18} + 10R^{86}Q^{15} + 57R^{88}Q^{12} + 3R^{90}Q^9 + \\
& 28R^{92}Q^6 + 28R^{94}Q^3 + 29R^{96}) \equiv (Q^3 - R^2)^{49} \pmod{83}
\end{aligned}$$

$$p_{26}(83t + 75) \equiv 0 \pmod{83} \text{ via } Q^{71}(Q^3 - R^2)^7$$

$$\begin{aligned}
& 12\vartheta(7PQ^{106} + 59P^3Q^{105} + 54RQ^{105} + 59P^5Q^{104} + 79P^2RQ^{104} + 45P^7Q^{103} + 38PR^2Q^{103} + \\
& 71P^4RQ^{103} + 58P^9Q^{102} + 11R^3Q^{102} + 11P^3R^2Q^{102} + 48P^6RQ^{102} + 56P^{11}Q^{101} + 61P^2R^3Q^{101} + \\
& 54P^5R^2Q^{101} + 26P^8RQ^{101} + 22PR^4Q^{100} + 34P^4R^3Q^{100} + 7P^7R^2Q^{100} + 55P^{10}RQ^{100} + \\
& 59R^5Q^{99} + 55P^3R^4Q^{99} + 57P^6R^3Q^{99} + 36P^9R^2Q^{99} + 74P^2R^5Q^{98} + 55P^5R^4Q^{98} + 64P^8R^3Q^{98} + \\
& 49P^{11}R^2Q^{98} + 30PR^6Q^{97} + 64P^4R^5Q^{97} + 71P^7R^4Q^{97} + 66P^{10}R^3Q^{97} + 53R^7Q^{96} + 75P^3R^6Q^{96} + \\
& 25P^6R^5Q^{96} + 9P^9R^4Q^{96} + 68P^2R^7Q^{95} + 78P^5R^6Q^{95} + 42P^8R^5Q^{95} + 67P^{11}R^4Q^{95} + 21PR^8Q^{94} + \\
& 58P^4R^7Q^{94} + 52P^7R^6Q^{94} + 5P^{10}R^5Q^{94} + 81R^9Q^{93} + 65P^3R^8Q^{93} + 15P^6R^7Q^{93} + 26P^9R^6Q^{93} + \\
& 9P^2R^9Q^{92} + 60P^5R^8Q^{92} + 66P^8R^7Q^{92} + 33P^{11}R^6Q^{92} + 78PR^{10}Q^{91} + 6P^4R^9Q^{91} + 38P^7R^8Q^{91} + \\
& 17P^{10}R^7Q^{91} + 21R^{11}Q^{90} + 42P^3R^{10}Q^{90} + 6P^6R^9Q^{90} + 55P^9R^8Q^{90} + 5P^2R^{11}Q^{89} + 72P^5R^{10}Q^{89} + \\
& 68P^8R^9Q^{89} + 5P^{11}R^8Q^{89} + 71PR^{12}Q^{88} + 42P^4R^{11}Q^{88} + 68P^7R^{10}Q^{88} + 14P^{10}R^9Q^{88} + \\
& 71R^{13}Q^{87} + 20P^3R^{12}Q^{87} + 32P^6R^{11}Q^{87} + 75P^9R^{10}Q^{87} + 60P^2R^{13}Q^{86} + 12P^5R^{12}Q^{86} + \\
& 66P^8R^{11}Q^{86} + P^{11}R^{10}Q^{86} + 71PR^{14}Q^{85} + 65P^4R^{13}Q^{85} + 59P^7R^{12}Q^{85} + 62P^{10}R^{11}Q^{85} + \\
& 54R^{15}Q^{84} + 43P^3R^{14}Q^{84} + 71P^6R^{13}Q^{84} + 72P^9R^{12}Q^{84} + 75P^2R^{15}Q^{83} + 51P^5R^{14}Q^{83} + \\
& 25P^8R^{13}Q^{83} + 3P^{11}R^{12}Q^{83} + 16PR^{16}Q^{82} + 57P^4R^{15}Q^{82} + 15P^7R^{14}Q^{82} + 77P^{10}R^{13}Q^{82} + \\
& 62R^{17}Q^{81} + 2P^3R^{16}Q^{81} + 13P^9R^{14}Q^{81} + 78P^2R^{17}Q^{80} + 69P^5R^{16}Q^{80} + 63P^8R^{15}Q^{80} + \\
& 77P^{11}R^{14}Q^{80} + 7PR^{18}Q^{79} + 34P^4R^{17}Q^{79} + 68P^7R^{16}Q^{79} + 69P^{10}R^{15}Q^{79} + 72R^{19}Q^{78} + \\
& 10P^3R^{18}Q^{78} + 71P^6R^{17}Q^{78} + 78P^9R^{16}Q^{78} + 77P^2R^{19}Q^{77} + 9P^5R^{18}Q^{77} + 39P^8R^{17}Q^{77} + \\
& 70P^{11}R^{16}Q^{77} + 27PR^{20}Q^{76} + 16P^4R^{19}Q^{76} + 22P^7R^{18}Q^{76} + 52P^{10}R^{17}Q^{76} + 29R^{21}Q^{75} + \\
& 74P^3R^{20}Q^{75} + 64P^6R^{19}Q^{75} + 33P^9R^{18}Q^{75} + 19P^2R^{21}Q^{74} + 77P^5R^{20}Q^{74} + 77P^8R^{19}Q^{74} + \\
& 56P^{11}R^{18}Q^{74} + 11PR^{22}Q^{73} + 77P^4R^{21}Q^{73} + 58P^7R^{20}Q^{73} + 56P^{10}R^{19}Q^{73} + 71R^{23}Q^{72} + \\
& 54P^3R^{22}Q^{72} + 47P^6R^{21}Q^{72} + 69P^9R^{20}Q^{72} + 13P^2R^{23}Q^{71} + 11P^5R^{22}Q^{71} + 67P^8R^{21}Q^{71} + \\
& 56P^{11}R^{20}Q^{71} + 40PR^{24}Q^{70} + 4P^4R^{23}Q^{70} + 70P^7R^{22}Q^{70} + 68P^{10}R^{21}Q^{70} + 77R^{25}Q^{69} + \\
& 27P^3R^{24}Q^{69} + 48P^6R^{23}Q^{69} + 20P^9R^{22}Q^{69} + 50P^2R^{25}Q^{68} + 18P^5R^{24}Q^{68} + 12P^8R^{23}Q^{68} + \\
& 41P^{11}R^{22}Q^{68} + 41PR^{26}Q^{67} + 31P^4R^{25}Q^{67} + 77P^7R^{24}Q^{67} + 4P^{10}R^{23}Q^{67} + 32R^{27}Q^{66} +
\end{aligned}$$

$$\begin{aligned}
& 32P^3R^{26}Q^{66} + 82P^6R^{25}Q^{66} + 70P^9R^{24}Q^{66} + 43P^2R^{27}Q^{65} + 44P^5R^{26}Q^{65} + 27P^8R^{25}Q^{65} + \\
& 54P^{11}R^{24}Q^{65} + 34PR^{28}Q^{64} + 76P^4R^{27}Q^{64} + 19P^7R^{26}Q^{64} + 2P^{10}R^{25}Q^{64} + 81R^{29}Q^{63} + \\
& 9P^3R^{28}Q^{63} + 5P^6R^{27}Q^{63} + 74P^9R^{26}Q^{63} + 63P^2R^{29}Q^{62} + 9P^5R^{28}Q^{62} + 35P^8R^{27}Q^{62} + \\
& 26P^{11}R^{26}Q^{62} + 8PR^{30}Q^{61} + 51P^4R^{29}Q^{61} + 55P^7R^{28}Q^{61} + 38P^{10}R^{27}Q^{61} + 58R^{31}Q^{60} + \\
& 24P^3R^{30}Q^{60} + 19P^6R^{29}Q^{60} + 42P^9R^{28}Q^{60} + 16P^2R^{31}Q^{59} + 18P^5R^{30}Q^{59} + 78P^8R^{29}Q^{59} + \\
& 32P^{11}R^{28}Q^{59} + 44PR^{32}Q^{58} + 22P^4R^{31}Q^{58} + 53P^7R^{30}Q^{58} + 11P^{10}R^{29}Q^{58} + 72R^{33}Q^{57} + \\
& 36P^3R^{32}Q^{57} + 12P^6R^{31}Q^{57} + 24P^9R^{30}Q^{57} + 48P^2R^{33}Q^{56} + 76P^5R^{32}Q^{56} + 9P^8R^{31}Q^{56} + \\
& 72P^{11}R^{30}Q^{56} + 38PR^{34}Q^{55} + 14P^4R^{33}Q^{55} + 31P^7R^{32}Q^{55} + 51P^{10}R^{31}Q^{55} + 75R^{35}Q^{54} + \\
& 56P^3R^{34}Q^{54} + 75P^6R^{33}Q^{54} + 4P^9R^{32}Q^{54} + 17P^2R^{35}Q^{53} + 32P^5R^{34}Q^{53} + 2P^8R^{33}Q^{53} + \\
& 68P^{11}R^{32}Q^{53} + 3PR^{36}Q^{52} + 12P^4R^{35}Q^{52} + 20P^7R^{34}Q^{52} + 62P^{10}R^{33}Q^{52} + 56R^{37}Q^{51} + \\
& 54P^3R^{36}Q^{51} + 48P^6R^{35}Q^{51} + 31P^9R^{34}Q^{51} + 40P^2R^{37}Q^{50} + 3P^5R^{36}Q^{50} + 33P^8R^{35}Q^{50} + \\
& 46P^{11}R^{34}Q^{50} + 20PR^{38}Q^{49} + 77P^4R^{37}Q^{49} + 79P^7R^{36}Q^{49} + 59P^{10}R^{35}Q^{49} + 27R^{39}Q^{48} + \\
& 32P^3R^{38}Q^{48} + 72P^6R^{37}Q^{48} + 38P^9R^{36}Q^{48} + 45P^2R^{39}Q^{47} + 63P^5R^{38}Q^{47} + 21P^8R^{37}Q^{47} + \\
& 28P^{11}R^{36}Q^{47} + 16PR^{40}Q^{46} + 3P^4R^{39}Q^{46} + 80P^7R^{38}Q^{46} + 68P^{10}R^{37}Q^{46} + 18R^{41}Q^{45} + \\
& 58P^3R^{40}Q^{45} + 65P^6R^{39}Q^{45} + 29P^9R^{38}Q^{45} + 58P^2R^{41}Q^{44} + 29P^5R^{40}Q^{44} + 49P^8R^{39}Q^{44} + \\
& 34P^{11}R^{38}Q^{44} + 42PR^{42}Q^{43} + 50P^4R^{41}Q^{43} + 66P^7R^{40}Q^{43} + 75P^{10}R^{39}Q^{43} + 78R^{43}Q^{42} + \\
& 58P^3R^{42}Q^{42} + 12P^6R^{41}Q^{42} + 66P^9R^{40}Q^{42} + 9P^2R^{43}Q^{41} + 79P^5R^{42}Q^{41} + 52P^8R^{41}Q^{41} + \\
& 11P^{11}R^{40}Q^{41} + 6PR^{44}Q^{40} + 2P^4R^{43}Q^{40} + 26P^7R^{42}Q^{40} + 8P^{10}R^{41}Q^{40} + 16R^{45}Q^{39} + \\
& 58P^3R^{44}Q^{39} + 39P^6R^{43}Q^{39} + 9P^9R^{42}Q^{39} + 31P^2R^{45}Q^{38} + 18P^5R^{44}Q^{38} + 51P^8R^{43}Q^{38} + \\
& 10P^{11}R^{42}Q^{38} + 24PR^{46}Q^{37} + 50P^4R^{45}Q^{37} + 46P^7R^{44}Q^{37} + 32P^{10}R^{43}Q^{37} + 67R^{47}Q^{36} + \\
& 49P^3R^{46}Q^{36} + 40P^6R^{45}Q^{36} + 17P^9R^{44}Q^{36} + 21P^2R^{47}Q^{35} + 38P^5R^{46}Q^{35} + 75P^8R^{45}Q^{35} + \\
& 17P^{11}R^{44}Q^{35} + 14PR^{48}Q^{34} + 51P^4R^{47}Q^{34} + 22P^7R^{46}Q^{34} + 32P^{10}R^{45}Q^{34} + 14R^{49}Q^{33} + \\
& 23P^3R^{48}Q^{33} + 44P^6R^{47}Q^{33} + 38P^9R^{46}Q^{33} + 34P^2R^{49}Q^{32} + 49P^5R^{48}Q^{32} + 69P^8R^{47}Q^{32} + \\
& 36P^{11}R^{46}Q^{32} + 62PR^{50}Q^{31} + 64P^4R^{49}Q^{31} + 68P^7R^{48}Q^{31} + 37P^{10}R^{47}Q^{31} + 16R^{51}Q^{30} + \\
& 57P^3R^{50}Q^{30} + 79P^6R^{49}Q^{30} + 63P^9R^{48}Q^{30} + 32P^2R^{51}Q^{29} + 36P^5R^{50}Q^{29} + 72P^8R^{49}Q^{29} + \\
& 19P^{11}R^{48}Q^{29} + 80PR^{52}Q^{28} + 52P^4R^{51}Q^{28} + 2P^7R^{50}Q^{28} + 29P^{10}R^{49}Q^{28} + 48R^{53}Q^{27} + \\
& 6P^3R^{52}Q^{27} + 44P^6R^{51}Q^{27} + 57P^9R^{50}Q^{27} + 67P^2R^{53}Q^{26} + 71P^5R^{52}Q^{26} + 31P^8R^{51}Q^{26} + \\
& 55P^{11}R^{50}Q^{26} + 54PR^{54}Q^{25} + 17P^4R^{53}Q^{25} + 79P^7R^{52}Q^{25} + 64P^{10}R^{51}Q^{25} + 46R^{55}Q^{24} + \\
& 66P^3R^{54}Q^{24} + 58P^6R^{53}Q^{24} + 82P^9R^{52}Q^{24} + 76P^2R^{55}Q^{23} + 49P^5R^{54}Q^{23} + 47P^8R^{53}Q^{23} + \\
& 67P^{11}R^{52}Q^{23} + 25PR^{56}Q^{22} + 3P^4R^{55}Q^{22} + 23P^7R^{54}Q^{22} + 6P^{10}R^{53}Q^{22} + 29R^{57}Q^{21} + \\
& 78P^3R^{56}Q^{21} + 20P^6R^{55}Q^{21} + 9P^9R^{54}Q^{21} + 66P^2R^{57}Q^{20} + 31P^5R^{56}Q^{20} + 40P^8R^{55}Q^{20} + \\
& 2P^{11}R^{54}Q^{20} + 35PR^{58}Q^{19} + 62P^4R^{57}Q^{19} + 20P^7R^{56}Q^{19} + 17P^{10}R^{55}Q^{19} + 65R^{59}Q^{18} + \\
& 79P^3R^{58}Q^{18} + 69P^6R^{57}Q^{18} + 6P^9R^{56}Q^{18} + 33P^2R^{59}Q^{17} + 33P^5R^{58}Q^{17} + 81P^8R^{57}Q^{17} + \\
& 68P^{11}R^{56}Q^{17} + 26PR^{60}Q^{16} + 7P^4R^{59}Q^{16} + 78P^7R^{58}Q^{16} + 13P^{10}R^{57}Q^{16} + 52R^{61}Q^{15} + \\
& 11P^3R^{60}Q^{15} + 30P^6R^{59}Q^{15} + 6P^9R^{58}Q^{15} + 31P^2R^{61}Q^{14} + 13P^5R^{60}Q^{14} + 33P^8R^{59}Q^{14} + \\
& 49P^{11}R^{58}Q^{14} + 50PR^{62}Q^{13} + 29P^4R^{61}Q^{13} + 37P^7R^{60}Q^{13} + 25P^{10}R^{59}Q^{13} + 61R^{63}Q^{12} + \\
& 27P^3R^{62}Q^{12} + 76P^6R^{61}Q^{12} + 44P^9R^{60}Q^{12} + 67P^2R^{63}Q^{11} + 73P^5R^{62}Q^{11} + 36P^8R^{61}Q^{11} + \\
& 60P^{11}R^{60}Q^{11} + 13PR^{64}Q^{10} + 56P^4R^{63}Q^{10} + 4P^7R^{62}Q^{10} + 67P^{10}R^{61}Q^{10} + 28R^{65}Q^9 + \\
& 51P^3R^{64}Q^9 + 9P^6R^{63}Q^9 + 12P^9R^{62}Q^9 + 79P^2R^{65}Q^8 + 82P^5R^{64}Q^8 + 61P^8R^{63}Q^8 + 2PR^{66}Q^7 + \\
& 10P^4R^{65}Q^7 + 73P^7R^{64}Q^7 + 33R^{67}Q^6 + 22P^3R^{66}Q^6 + 27P^6R^{65}Q^6 + 32P^2R^{67}Q^5 + 25P^5R^{66}Q^5 + \\
& 72PR^{68}Q^4 + 24P^4R^{67}Q^4 + 34R^{69}Q^3 + 48P^3R^{68}Q^3 + 64P^2R^{69}Q^2 + 18PR^{70}Q + 82R^{71}) \\
& = Q^{83}(Q^3 - R^2)^8 - 83(4Q^{107} - 28P^2Q^{106} - 292P^4Q^{105} - 234PRQ^{105} - 292P^6Q^{104} + 276R^2Q^{104} - \\
& 100P^3RQ^{104} - 219P^8Q^{103} + 215P^2R^2Q^{103} - 54P^5RQ^{103} - 280P^{10}Q^{102} + 140PR^3Q^{102} + \\
& 307P^4R^2Q^{102} - 16P^7RQ^{102} - 280P^{12}Q^{101} + 76R^4Q^{101} - 240P^3R^3Q^{101} - 25P^6R^2Q^{101} + \\
& 166P^9RQ^{101} + 213P^2R^4Q^{100} + 110P^5R^3Q^{100} + 109P^8R^2Q^{100} + 4P^{11}RQ^{100} - 182PR^5Q^{99} - \\
& 90P^4R^4Q^{99} - 228P^7R^3Q^{99} + 105P^{10}R^2Q^{99} + 308R^6Q^{98} - 80P^3R^5Q^{98} + 8P^6R^4Q^{98} - \\
& 140P^9R^3Q^{98} - 245P^{12}R^2Q^{98} + 233P^2R^6Q^{97} - 30P^5R^5Q^{97} - 40P^8R^4Q^{97} - 80P^{11}R^3Q^{97} - \\
& 118PR^7Q^{96} - 49P^4R^6Q^{96} + 232P^7R^5Q^{96} + 274P^{10}R^4Q^{96} + 299R^8Q^{95} + 40P^3R^7Q^{95} - \\
& 268P^6R^6Q^{95} - 158P^9R^5Q^{95} - 335P^{12}R^4Q^{95} + 212P^2R^8Q^{94} + 98P^5R^7Q^{94} - 34P^8R^6Q^{94} +
\end{aligned}$$



$$\begin{aligned}
& 296P^{11}R^5Q^{94} - 264PR^9Q^{93} - 61P^4R^8Q^{93} + 188P^7R^7Q^{93} - 95P^{10}R^6Q^{93} + 380R^{10}Q^{92} + \\
& 276P^3R^9Q^{92} - 230P^6R^8Q^{92} - 182P^9R^7Q^{92} - 165P^{12}R^6Q^{92} - 354P^2R^{10}Q^{91} + 288P^5R^9Q^{91} + \\
& 151P^8R^8Q^{91} + 64P^{11}R^7Q^{91} + 296PR^{11}Q^{90} - 150P^4R^{10}Q^{90} + 192P^7R^9Q^{90} - 192P^{10}R^8Q^{90} + \\
& 159R^{12}Q^{89} + 176P^3R^{11}Q^{89} - 308P^6R^{10}Q^{89} - 48P^9R^9Q^{89} - 25P^{12}R^8Q^{89} - 285P^2R^{12}Q^{88} + \\
& 108P^5R^{11}Q^{88} + 9P^8R^{10}Q^{88} - 48P^{11}R^9Q^{88} + 10PR^{13}Q^{87} + 138P^4R^{12}Q^{87} + 184P^7R^{11}Q^{87} - \\
& 268P^{10}R^{10}Q^{87} + 357R^{14}Q^{86} - 176P^3R^{13}Q^{86} + 145P^6R^{12}Q^{86} + 52P^9R^{11}Q^{86} - 5P^{12}R^{10}Q^{86} - \\
& 32P^2R^{14}Q^{85} - 224P^5R^{13}Q^{85} + 7P^8R^{12}Q^{85} - 304P^{11}R^{11}Q^{85} + 34PR^{15}Q^{84} + 112P^4R^{14}Q^{84} - \\
& 100P^7R^{13}Q^{84} - 35P^{10}R^{12}Q^{84} + 295R^{16}Q^{83} - 204P^3R^{15}Q^{83} + 30P^6R^{14}Q^{83} + 188P^9R^{13}Q^{83} - \\
& 15P^{12}R^{12}Q^{83} + 314P^2R^{16}Q^{82} - 6P^5R^{15}Q^{82} + 94P^8R^{14}Q^{82} - 296P^{11}R^{13}Q^{82} - 244PR^{17}Q^{81} + \\
& 261P^4R^{16}Q^{81} + 144P^7R^{15}Q^{81} + 324P^{10}R^{14}Q^{81} + 341R^{18}Q^{80} - 376P^3R^{17}Q^{80} - 257P^6R^{16}Q^{80} - \\
& 168P^9R^{15}Q^{80} - 385P^{12}R^{14}Q^{80} + 371P^2R^{18}Q^{79} + 110P^5R^{17}Q^{79} - 44P^8R^{16}Q^{79} + 32P^{11}R^{15}Q^{79} - \\
& 302PR^{19}Q^{78} + 101P^4R^{18}Q^{78} - 68P^7R^{17}Q^{78} - 56P^{10}R^{16}Q^{78} + 315R^{20}Q^{77} - 248P^3R^{19}Q^{77} + \\
& 311P^6R^{18}Q^{77} + 146P^9R^{17}Q^{77} - 350P^{12}R^{16}Q^{77} + 179P^2R^{20}Q^{76} + 68P^5R^{19}Q^{76} + 143P^8R^{18}Q^{76} + \\
& 72P^{11}R^{17}Q^{76} - 32PR^{21}Q^{75} - 197P^4R^{20}Q^{75} - 152P^7R^{19}Q^{75} + 109P^{10}R^{18}Q^{75} + 223R^{22}Q^{74} + \\
& 260P^3R^{21}Q^{74} - 83P^6R^{20}Q^{74} - 162P^9R^{19}Q^{74} - 280P^{12}R^{18}Q^{74} + 35P^2R^{22}Q^{73} - 96P^5R^{21}Q^{73} + \\
& 91P^8R^{20}Q^{73} - 256PR^{23}Q^{72} + 3P^4R^{22}Q^{72} + 84P^7R^{21}Q^{72} - 39P^{10}R^{20}Q^{72} + 386R^{24}Q^{71} + \\
& 168P^3R^{23}Q^{71} + 193P^6R^{22}Q^{71} - 58P^9R^{21}Q^{71} - 280P^{12}R^{20}Q^{71} - 69P^2R^{24}Q^{70} + 52P^5R^{23}Q^{70} - \\
& 102P^8R^{22}Q^{70} - 84P^{11}R^{21}Q^{70} - 182PR^{25}Q^{69} - 67P^4R^{24}Q^{69} + 128P^7R^{23}Q^{69} + 141P^{10}R^{22}Q^{69} + \\
& 319R^{26}Q^{68} - 104P^3R^{25}Q^{68} + 223P^6R^{24}Q^{68} + 128P^9R^{23}Q^{68} - 205P^{12}R^{22}Q^{68} + 39P^2R^{26}Q^{67} - \\
& 10P^5R^{25}Q^{67} - 293P^8R^{24}Q^{67} + 208P^{11}R^{23}Q^{67} + 38PR^{27}Q^{66} + 88P^4R^{26}Q^{66} - 128P^7R^{25}Q^{66} - \\
& 328P^{10}R^{24}Q^{66} + 272R^{28}Q^{65} - 96P^3R^{27}Q^{65} + 49P^6R^{26}Q^{65} + 226P^9R^{25}Q^{65} - 270P^{12}R^{24}Q^{65} + \\
& 93P^2R^{28}Q^{64} - 230P^5R^{27}Q^{64} + 65P^8R^{26}Q^{64} + 208P^{11}R^{25}Q^{64} - 292PR^{29}Q^{63} + 296P^4R^{28}Q^{63} + \\
& 148P^7R^{27}Q^{63} - 288P^{10}R^{26}Q^{63} + 376R^{30}Q^{62} - 240P^3R^{29}Q^{62} + 14P^6R^{28}Q^{62} + 138P^9R^{27}Q^{62} - \\
& 130P^{12}R^{26}Q^{62} + 184P^2R^{30}Q^{61} - 192P^5R^{29}Q^{61} - 5P^8R^{28}Q^{61} - 48P^{11}R^{27}Q^{61} - 172PR^{31}Q^{60} + \\
& 78P^4R^{30}Q^{60} + 188P^7R^{29}Q^{60} - 72P^{10}R^{28}Q^{60} + 340R^{32}Q^{59} + 72P^3R^{31}Q^{59} - 5P^6R^{30}Q^{59} - \\
& 218P^9R^{29}Q^{59} - 160P^{12}R^{28}Q^{59} - 64P^2R^{32}Q^{58} + 116P^5R^{31}Q^{58} - 23P^8R^{30}Q^{58} + 192P^{11}R^{29}Q^{58} - \\
& 152PR^{33}Q^{57} - 84P^4R^{32}Q^{57} + 160P^7R^{31}Q^{57} + 34P^{10}R^{30}Q^{57} + 388R^{34}Q^{56} - 8P^3R^{33}Q^{56} - \\
& 171P^6R^{32}Q^{56} + 36P^9R^{31}Q^{56} - 360P^{12}R^{30}Q^{56} - 20P^2R^{34}Q^{55} + 218P^5R^{33}Q^{55} - 127P^8R^{32}Q^{55} + \\
& 96P^{11}R^{31}Q^{55} - 276PR^{35}Q^{54} - 216P^4R^{34}Q^{54} - 248P^7R^{33}Q^{54} + 272P^{10}R^{32}Q^{54} + 345R^{36}Q^{53} + \\
& 200P^3R^{35}Q^{53} + 156P^6R^{34}Q^{53} + 84P^9R^{33}Q^{53} - 340P^{12}R^{32}Q^{53} + 137P^2R^{36}Q^{52} + 32P^5R^{35}Q^{52} - \\
& 9P^8R^{34}Q^{52} - 24P^{11}R^{33}Q^{52} - 224PR^{37}Q^{51} - 39P^4R^{36}Q^{51} + 16P^7R^{35}Q^{51} + 155P^{10}R^{34}Q^{51} + \\
& 214R^{38}Q^{50} + 20P^3R^{37}Q^{50} + 302P^6R^{36}Q^{50} + 16P^9R^{35}Q^{50} - 230P^{12}R^{34}Q^{50} + 122P^2R^{38}Q^{49} - \\
& 206P^5R^{37}Q^{49} - 259P^8R^{36}Q^{49} - 112P^{11}R^{35}Q^{49} - 44PR^{39}Q^{48} + 31P^4R^{38}Q^{48} + 44P^7R^{37}Q^{48} + \\
& 134P^{10}R^{36}Q^{48} + 116R^{40}Q^{47} + 12P^3R^{39}Q^{47} + 37P^6R^{38}Q^{47} + 70P^9R^{37}Q^{47} - 140P^{12}R^{36}Q^{47} + \\
& 194P^2R^{40}Q^{46} + 216P^5R^{39}Q^{46} - 215P^8R^{38}Q^{46} - 184P^{11}R^{37}Q^{46} + 72PR^{41}Q^{45} - 139P^4R^{40}Q^{45} + \\
& 44P^7R^{39}Q^{45} + 221P^{10}R^{38}Q^{45} + 282R^{42}Q^{44} + 8P^3R^{41}Q^{44} + 35P^6R^{40}Q^{44} + 16P^9R^{39}Q^{44} - \\
& 170P^{12}R^{38}Q^{44} - 62P^2R^{42}Q^{43} + 48P^5R^{41}Q^{43} - 68P^8R^{40}Q^{43} - 272P^{11}R^{39}Q^{43} - 294PR^{43}Q^{42} - \\
& 181P^4R^{42}Q^{42} + 160P^7R^{41}Q^{42} - 151P^{10}R^{40}Q^{42} + 210R^{44}Q^{41} + 256P^3R^{43}Q^{41} - 253P^6R^{42}Q^{41} - \\
& 100P^9R^{41}Q^{41} - 55P^{12}R^{40}Q^{41} + 90P^2R^{44}Q^{40} + 206P^5R^{43}Q^{40} + 131P^8R^{42}Q^{40} + 12P^{11}R^{41}Q^{40} + \\
& 10PR^{45}Q^{39} - 128P^4R^{44}Q^{39} + 4P^7R^{43}Q^{39} + 71P^{10}R^{42}Q^{39} + 258R^{46}Q^{38} + 116P^3R^{45}Q^{38} + \\
& 116P^6R^{44}Q^{38} - 182P^9R^{43}Q^{38} - 50P^{12}R^{42}Q^{38} + 7P^2R^{46}Q^{37} - 92P^5R^{45}Q^{37} + 107P^8R^{44}Q^{37} - \\
& 88P^{11}R^{43}Q^{37} - 252PR^{47}Q^{36} + 15P^4R^{46}Q^{36} - 40P^7R^{45}Q^{36} + 78P^{10}R^{44}Q^{36} + 166R^{48}Q^{35} + \\
& 60P^3R^{47}Q^{35} + 28P^6R^{46}Q^{35} - 218P^9R^{45}Q^{35} - 85P^{12}R^{44}Q^{35} + 85P^2R^{48}Q^{34} - 22P^5R^{47}Q^{34} + \\
& 254P^8R^{46}Q^{34} - 12P^{11}R^{45}Q^{34} + 176PR^{49}Q^{33} + 196P^4R^{48}Q^{33} + 56P^7R^{47}Q^{33} - 8P^{10}R^{46}Q^{33} + \\
& 82R^{50}Q^{32} + 72P^3R^{49}Q^{32} + 107P^6R^{48}Q^{32} - 64P^9R^{47}Q^{32} - 180P^{12}R^{46}Q^{32} - 145P^2R^{50}Q^{31} - \\
& 114P^5R^{49}Q^{31} + 25P^8R^{48}Q^{31} - 64P^{11}R^{47}Q^{31} + 312PR^{51}Q^{30} - P^4R^{50}Q^{30} - 284P^7R^{49}Q^{30} - \\
& 156P^{10}R^{48}Q^{30} + 208R^{52}Q^{29} - 56P^3R^{51}Q^{29} + 94P^6R^{50}Q^{29} - 62P^9R^{49}Q^{29} - 95P^{12}R^{48}Q^{29} - \\
& 108P^2R^{52}Q^{28} + 56P^5R^{51}Q^{28} + 211P^8R^{50}Q^{28} + 80P^{11}R^{49}Q^{28} + 74PR^{53}Q^{27} + 109P^4R^{52}Q^{27} + \\
& 80P^7R^{51}Q^{27} - 4P^{10}R^{50}Q^{27} + 246R^{54}Q^{26} - 76P^3R^{53}Q^{26} - 74P^6R^{52}Q^{26} + 234P^9R^{51}Q^{26} -
\end{aligned}$$

$$\begin{aligned}
& 275P^{12}R^{50}Q^{26} + 112P^2R^{54}Q^{25} + 198P^5R^{53}Q^{25} - 171P^8R^{52}Q^{25} - 68PR^{55}Q^{24} - 301P^4R^{54}Q^{24} - \\
& 104P^7R^{53}Q^{24} - 303P^{10}R^{52}Q^{24} + 173R^{56}Q^{23} + 4P^3R^{55}Q^{23} - 100P^6R^{54}Q^{23} - 106P^9R^{53}Q^{23} - \\
& 335P^{12}R^{52}Q^{23} + 231P^2R^{56}Q^{22} + 166P^5R^{55}Q^{22} + 96P^8R^{54}Q^{22} + 52P^{11}R^{53}Q^{22} + 26PR^{57}Q^{21} - \\
& 137P^4R^{56}Q^{21} + 8P^7R^{55}Q^{21} + 29P^{10}R^{54}Q^{21} + 307R^{58}Q^{20} + 76P^3R^{57}Q^{20} + 149P^6R^{56}Q^{20} - \\
& 166P^9R^{55}Q^{20} - 10P^{12}R^{54}Q^{20} + 28P^2R^{58}Q^{19} - 142P^5R^{57}Q^{19} + 272P^8R^{56}Q^{19} + 192P^{11}R^{55}Q^{19} - \\
& 188PR^{59}Q^{18} - 314P^4R^{58}Q^{18} + 4P^7R^{57}Q^{18} + 48P^{10}R^{56}Q^{18} + 286R^{60}Q^{17} - 52P^3R^{59}Q^{17} + \\
& 27P^6R^{58}Q^{17} - 376P^9R^{57}Q^{17} - 340P^{12}R^{56}Q^{17} + 31P^2R^{60}Q^{16} + 50P^5R^{59}Q^{16} - 186P^8R^{58}Q^{16} + \\
& 196P^{11}R^{57}Q^{16} - 22PR^{61}Q^{15} + 78P^4R^{60}Q^{15} + 72P^7R^{59}Q^{15} + 93P^{10}R^{58}Q^{15} + 316R^{62}Q^{14} - \\
& 28P^3R^{61}Q^{14} + 294P^6R^{60}Q^{14} + 32P^9R^{59}Q^{14} - 245P^{12}R^{58}Q^{14} + 71P^2R^{62}Q^{13} + 194P^5R^{61}Q^{13} - \\
& P^8R^{60}Q^{13} + 168P^{11}R^{59}Q^{13} - 220PR^{63}Q^{12} + 140P^4R^{62}Q^{12} - 340P^7R^{61}Q^{12} + 98P^{10}R^{60}Q^{12} + \\
& 167R^{64}Q^{11} - 88P^3R^{63}Q^{11} - 285P^6R^{62}Q^{11} - 94P^9R^{61}Q^{11} - 300P^{12}R^{60}Q^{11} + 342P^2R^{64}Q^{10} + \\
& 134P^5R^{63}Q^{10} + 278P^8R^{62}Q^{10} - 304P^{11}R^{61}Q^{10} - 126PR^{65}Q^9 - 181P^4R^{64}Q^9 + 300P^7R^{63}Q^9 - \\
& 28P^{10}R^{62}Q^9 + 172R^{66}Q^8 - 276P^3R^{65}Q^8 - 279P^6R^{64}Q^8 - 302P^9R^{63}Q^8 + 176P^2R^{66}Q^7 + \\
& 102P^5R^{65}Q^7 - 345P^8R^{64}Q^7 + 186PR^{67}Q^6 + 9P^4R^{66}Q^6 - 112P^7R^{65}Q^6 + 180R^{68}Q^5 + \\
& 80P^3R^{67}Q^5 - 119P^6R^{66}Q^5 - 40P^2R^{68}Q^4 - 116P^5R^{67}Q^4 - 68PR^{69}Q^3 - 240P^4R^{68}Q^3 + \\
& 426R^{70}Q^2 - 320P^3R^{69}Q^2 - 86P^2R^{70}Q - 420PR^{71})
\end{aligned}$$

$$\begin{aligned}
& 12^{12}\vartheta^{12} (21Q^{101} + 8R^2Q^{98} + 77R^4Q^{95} + 2R^6Q^{92} + 33R^8Q^{89} + 73R^{10}Q^{86} + 53R^{12}Q^{83} + 60R^{14}Q^{80} + \\
& 47R^{16}Q^{77} + 21R^{18}Q^{74} + 21R^{20}Q^{71} + 5R^{22}Q^{68} + 41R^{24}Q^{65} + 72R^{26}Q^{62} + 12R^{28}Q^{59} + 27R^{30}Q^{56} + \\
& 67R^{32}Q^{53} + 38R^{34}Q^{50} + 52R^{36}Q^{47} + 75R^{38}Q^{44} + 56R^{40}Q^{41} + 66R^{42}Q^{38} + 79R^{44}Q^{35} + 55R^{46}Q^{32} + \\
& 59R^{48}Q^{29} + 31R^{50}Q^{26} + 77R^{52}Q^{23} + 63R^{54}Q^{20} + 67R^{56}Q^{17} + 8R^{58}Q^{14} + 64R^{60}Q^{11}) \equiv (Q^3 - R^2)^8 \\
& \pmod{83}
\end{aligned}$$

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$$p_{14}(89t + 81) \equiv 0 \pmod{89}$$

$$\begin{aligned}
& 12\vartheta(13PQ^{23} + 63P^3Q^{22} + 57RQ^{22} + 55P^5Q^{21} + 81P^2RQ^{21} + 7PR^2Q^{20} + 79P^4RQ^{20} + 23R^3Q^{19} + \\
& 14P^3R^2Q^{19} + 86P^2R^3Q^{18} + 74P^5R^2Q^{18} + 67PR^4Q^{17} + 65P^4R^3Q^{17} + 78R^5Q^{16} + 52P^3R^4Q^{16} + \\
& 5P^2R^5Q^{15} + 44P^5R^4Q^{15} + 62PR^6Q^{14} + 9P^4R^5Q^{14} + 59R^7Q^{13} + 38P^3R^6Q^{13} + 13P^2R^7Q^{12} + \\
& 53P^5R^6Q^{12} + 13PR^8Q^{11} + 28P^4R^7Q^{11} + 29R^9Q^{10} + 63P^3R^8Q^{10} + 37P^2R^9Q^9 + 44P^5R^8Q^9 + \\
& 5PR^{10}Q^8 + 15P^4R^9Q^8 + 25R^{11}Q^7 + 79P^3R^{10}Q^7 + 48P^2R^{11}Q^6 + 5P^5R^{10}Q^6 + 81PR^{12}Q^5 + \\
& 77P^4R^{11}Q^5 + 25R^{13}Q^4 + 56P^3R^{12}Q^4 + 42P^2R^{13}Q^3 + 13P^5R^{12}Q^3 + 31PR^{14}Q^2 + 71P^4R^{13}Q^2 + \\
& 22R^{15}Q + 15P^3R^{14}Q + 20P^2R^{15} + 17P^5R^{14}) \\
& = (Q^3 - R^2)^8 - 89(4Q^{24} - 6P^2Q^{23} - 56P^4Q^{22} - 44PRQ^{22} - 55P^6Q^{21} + 61R^2Q^{21} - 16P^3RQ^{21} + \\
& 87P^2R^2Q^{20} - 18P^5RQ^{20} + 2PR^3Q^{19} + 74P^4R^2Q^{19} + 47R^4Q^{18} - 60P^3R^3Q^{18} - 74P^6R^2Q^{18} + \\
& 3P^2R^4Q^{17} + 6P^5R^3Q^{17} - 6PR^5Q^{16} + 2P^4R^4Q^{16} + 84R^6Q^{15} + 48P^3R^5Q^{15} - 44P^6R^4Q^{15} - \\
& 54P^2R^6Q^{14} + 42P^5R^5Q^{14} - 16PR^7Q^{13} - 17P^4R^6Q^{13} + 53R^8Q^{12} + 44P^3R^7Q^{12} - 53P^6R^6Q^{12} + \\
& 18P^2R^8Q^{11} + 24P^5R^7Q^{11} - 20PR^9Q^{10} - 39P^4R^8Q^{10} + 31R^{10}Q^9 + 44P^3R^9Q^9 - 44P^6R^8Q^9 + \\
& 48P^2R^{10}Q^8 + 6P^5R^9Q^8 + 42PR^{11}Q^7 - 18P^4R^{10}Q^7 + 31R^{12}Q^6 + 24P^3R^{11}Q^6 - 5P^6R^{10}Q^6 - \\
& 33P^2R^{12}Q^5 - 66P^5R^{11}Q^5 + 22PR^{13}Q^4 + 23P^4R^{12}Q^4 + 27R^{14}Q^3 - 16P^3R^{13}Q^3 - 13P^6R^{12}Q^3 - \\
& 6P^2R^{14}Q^2 - 54P^5R^{13}Q^2 - 20PR^{15}Q - 8P^4R^{14}Q + R^{16} - 20P^3R^{15} - 17P^6R^{14})
\end{aligned}$$

$$12^6\vartheta^6(70Q^{21} + 78R^2Q^{18} + 56R^4Q^{15} + 27R^6Q^{12} + 56R^8Q^9 + 63R^{10}Q^6 + 57R^{12}Q^3 + 54R^{14}) \equiv (Q^3 - R^2)^8 \pmod{89}$$

$$p_4(89t + 74) \equiv 0 \pmod{89}$$

$$\begin{aligned}
& 12\vartheta(74RQ^{43} + 70R^3Q^{40} + 83R^5Q^{37} + 68R^7Q^{34} + 82R^9Q^{31} + 60R^{11}Q^{28} + 6R^{13}Q^{25} + 50R^{15}Q^{22} + \\
& 36R^{17}Q^{19} + 16R^{19}Q^{16} + 86R^{21}Q^{13} + 71R^{23}Q^{10} + 70R^{25}Q^7 + 77R^{27}Q^4 + 67R^{29}Q) \\
& = (Q^3 - R^2)^{15} - 89(5Q^{45} - 148PRQ^{43} + 157R^2Q^{42} - 140PR^3Q^{40} + 155R^4Q^{39} - 166PR^5Q^{37} +
\end{aligned}$$

$$165R^6Q^{36} - 136PR^7Q^{34} + 169R^8Q^{33} - 164PR^9Q^{31} + 125R^{10}Q^{30} - 120PR^{11}Q^{28} + 137R^{12}Q^{27} - 12PR^{13}Q^{25} - 15R^{14}Q^{24} - 100PR^{15}Q^{22} + 163R^{16}Q^{21} - 72PR^{17}Q^{19} - 5R^{18}Q^{18} - 32PR^{19}Q^{16} + 167R^{20}Q^{15} - 172PR^{21}Q^{13} + 145R^{22}Q^{12} - 142PR^{23}Q^{10} + 155R^{24}Q^9 - 140PR^{25}Q^7 + 161R^{26}Q^6 - 154PR^{27}Q^4 + 145R^{28}Q^3 - 134PR^{29}Q + 3R^{30})$$

$$p_8(89t + 59) \equiv 0 \pmod{89}$$

$$\begin{aligned} & 12\vartheta(49PQ^{89} + 51RQ^{88} + 23P^2RQ^{87} + 64PR^2Q^{86} + 49R^3Q^{85} + 83P^2R^3Q^{84} + 44PR^4Q^{83} + \\ & 25R^5Q^{82} + 39P^2R^5Q^{81} + 78PR^6Q^{80} + 14R^7Q^{79} + 57P^2R^7Q^{78} + 53PR^8Q^{77} + 26R^9Q^{76} + \\ & 26P^2R^9Q^{75} + 78PR^{10}Q^{74} + 29R^{11}Q^{73} + 61P^2R^{11}Q^{72} + 74PR^{12}Q^{71} + 13R^{13}Q^{70} + 45P^2R^{13}Q^{69} + \\ & 33PR^{14}Q^{68} + 79R^{15}Q^{67} + 73P^2R^{15}Q^{66} + 29PR^{16}Q^{65} + 4R^{17}Q^{64} + 67P^2R^{17}Q^{63} + 79PR^{18}Q^{62} + \\ & 68R^{19}Q^{61} + 22P^2R^{19}Q^{60} + 60PR^{20}Q^{59} + 42R^{21}Q^{58} + 73P^2R^{21}Q^{57} + 77PR^{22}Q^{56} + 70R^{23}Q^{55} + \\ & 7P^2R^{23}Q^{54} + PR^{24}Q^{53} + 16R^{25}Q^{52} + 19P^2R^{25}Q^{51} + 18PR^{26}Q^{50} + 74R^{27}Q^{49} + 52P^2R^{27}Q^{48} + \\ & 53PR^{28}Q^{47} + 49R^{29}Q^{46} + 13P^2R^{29}Q^{45} + 38PR^{30}Q^{44} + 64R^{31}Q^{43} + 46P^2R^{31}Q^{42} + 8PR^{32}Q^{41} + \\ & 56R^{33}Q^{40} + 59P^2R^{33}Q^{39} + 52PR^{34}Q^{38} + 14R^{35}Q^{37} + 70P^2R^{35}Q^{36} + 42PR^{36}Q^{35} + 43R^{37}Q^{34} + \\ & 51P^2R^{37}Q^{33} + 85PR^{38}Q^{32} + 83R^{39}Q^{31} + 45P^2R^{39}Q^{30} + 87PR^{40}Q^{29} + 85R^{41}Q^{28} + 75P^2R^{41}Q^{27} + \\ & PR^{42}Q^{26} + 74R^{43}Q^{25} + 15PR^{44}Q^{23} + 44R^{45}Q^{22} + 5P^2R^{45}Q^{21} + 63PR^{46}Q^{20} + 59R^{47}Q^{19} + \\ & 83P^2R^{47}Q^{18} + 12PR^{48}Q^{17} + 16R^{49}Q^{16} + 56P^2R^{49}Q^{15} + 16PR^{50}Q^{14} + 8R^{51}Q^{13} + 74P^2R^{51}Q^{12} + \\ & 80PR^{52}Q^{11} + 48R^{53}Q^{10} + 82P^2R^{53}Q^9 + 12PR^{54}Q^8 + 14R^{55}Q^7 + 72P^2R^{55}Q^6 + 25PR^{56}Q^5 + \\ & 10R^{57}Q^4 + 39P^2R^{57}Q^3 + 3PR^{58}Q^2 + 22R^{59}Q + 10P^2R^{59}) \\ & = (Q^3 - R^2)^{30} - 89(4Q^{90} - 195P^2Q^{89} + 212R^2Q^{87} - 92P^3RQ^{87} - 150P^2R^2Q^{86} + \\ & 64PR^3Q^{85} + 201R^4Q^{84} - 332P^3R^3Q^{84} + 150P^2R^4Q^{83} + 96PR^5Q^{82} + 54R^6Q^{81} - 156P^3R^5Q^{81} - \\ & 144P^2R^6Q^{80} + 254PR^7Q^{79} + 374R^8Q^{78} - 228P^3R^7Q^{78} + 3P^2R^8Q^{77} + 132PR^9Q^{76} - \\ & 1490R^{10}Q^{75} - 104P^3R^9Q^{75} - 180P^2R^{10}Q^{74} + 204PR^{11}Q^{73} + 6779R^{12}Q^{72} - 244P^3R^{11}Q^{72} - \\ & 60P^2R^{12}Q^{71} + 216PR^{13}Q^{70} - 22753R^{14}Q^{69} - 180P^3R^{13}Q^{69} + 81P^2R^{14}Q^{68} - 184PR^{15}Q^{67} + \\ & 66006R^{16}Q^{66} - 292P^3R^{15}Q^{66} + 177P^2R^{16}Q^{65} + 166PR^{17}Q^{64} - 160655R^{18}Q^{63} - 268P^3R^{17}Q^{63} - \\ & 99P^2R^{18}Q^{62} + 28PR^{19}Q^{61} + 337831R^{20}Q^{60} - 88P^3R^{19}Q^{60} - 78P^2R^{20}Q^{59} + 106PR^{21}Q^{58} - \\ & 613571R^{22}Q^{57} - 292P^3R^{21}Q^{57} - 111P^2R^{22}Q^{56} - 86PR^{23}Q^{55} + 972034R^{24}Q^{54} - 28P^3R^{23}Q^{54} + \\ & 45P^2R^{24}Q^{53} - 30PR^{25}Q^{52} - 1345444R^{26}Q^{51} - 76P^3R^{25}Q^{51} + 66P^2R^{26}Q^{50} - 156PR^{27}Q^{49} + \\ & 1634222R^{28}Q^{48} - 208P^3R^{27}Q^{48} - 75P^2R^{28}Q^{47} - 8PR^{29}Q^{46} - 1742658R^{30}Q^{45} - 52P^3R^{29}Q^{45} - \\ & 30P^2R^{30}Q^{44} - 164PR^{31}Q^{43} + 1634211R^{32}Q^{42} - 184P^3R^{31}Q^{42} + 186P^2R^{32}Q^{41} - 90PR^{33}Q^{40} - \\ & 1345482R^{34}Q^{39} - 236P^3R^{33}Q^{39} + 60P^2R^{34}Q^{38} + 136PR^{35}Q^{37} + 971965R^{36}Q^{36} - 280P^3R^{35}Q^{36} + \\ & 72P^2R^{36}Q^{35} + 112PR^{37}Q^{34} - 613505R^{38}Q^{33} - 204P^3R^{37}Q^{33} - 147P^2R^{38}Q^{32} + 24PR^{39}Q^{31} + \\ & 337936R^{40}Q^{30} - 180P^3R^{39}Q^{30} - 81P^2R^{40}Q^{29} - 224PR^{41}Q^{28} - 160433R^{42}Q^{27} - 300P^3R^{41}Q^{27} + \\ & 87P^2R^{42}Q^{26} - 252PR^{43}Q^{25} + 65980R^{44}Q^{24} - 45P^2R^{44}Q^{23} + 34PR^{45}Q^{22} - 22643R^{46}Q^{21} - \\ & 20P^3R^{45}Q^{21} + 15P^2R^{46}Q^{20} - 140PR^{47}Q^{19} + 6775R^{48}Q^{18} - 332P^3R^{47}Q^{18} + 204P^2R^{48}Q^{17} - \\ & 1562R^{50}Q^{15} - 224P^3R^{49}Q^{15} + 228P^2R^{50}Q^{14} + 260PR^{51}Q^{13} + 485R^{52}Q^{12} - 296P^3R^{51}Q^{12} + \\ & 12P^2R^{52}Q^{11} - 108PR^{53}Q^{10} + 28R^{54}Q^9 - 328P^3R^{53}Q^9 + 252P^2R^{54}Q^8 + 44PR^{55}Q^7 + 48R^{56}Q^6 - \\ & 288P^3R^{55}Q^6 + 69P^2R^{56}Q^5 - 22PR^{57}Q^4 + 89R^{58}Q^3 - 156P^3R^{57}Q^3 + 33P^2R^{58}Q^2 - 88PR^{59}Q + \\ & R^{60} - 40P^3R^{59}) \end{aligned}$$

$$12^3\vartheta^3(56RQ^{87} + 86R^3Q^{84} + 64R^5Q^{81} + 73R^7Q^{78} + 13R^9Q^{75} + 75R^{11}Q^{72} + 67R^{13}Q^{69} + 81R^{15}Q^{66} + 78R^{17}Q^{63} + 11R^{19}Q^{60} + 81R^{21}Q^{57} + 48R^{23}Q^{54} + 54R^{25}Q^{51} + 26R^{27}Q^{48} + 51R^{29}Q^{45} + 23R^{31}Q^{42} + 74R^{33}Q^{39} + 35R^{35}Q^{36} + 70R^{37}Q^{33} + 67R^{39}Q^{30} + 82R^{41}Q^{27} + 47R^{45}Q^{21} + 86R^{47}Q^{18} + 28R^{49}Q^{15} + 37R^{51}Q^{12} + 41R^{53}Q^9 + 36R^{55}Q^6 + 64R^{57}Q^3 + 5R^{59}) \equiv (Q^3 - R^2)^{30} \pmod{89}$$

$$p_{14}(101t + 92) \equiv 0 \pmod{101}$$

$$\begin{aligned}
& 12\vartheta(15PQ^{26} + 59P^3Q^{25} + 31RQ^{25} + 39P^5Q^{24} + 31P^2RQ^{24} + 4PR^2Q^{23} + 4P^4RQ^{23} + 2R^3Q^{22} + \\
& 45P^3R^2Q^{22} + 2P^2R^3Q^{21} + 25P^5R^2Q^{21} + 27PR^4Q^{20} + 73P^4R^3Q^{20} + 56R^5Q^{19} + 84P^3R^4Q^{19} + \\
& 30P^2R^5Q^{18} + 46P^5R^4Q^{18} + 92PR^6Q^{17} + 12P^4R^5Q^{17} + 62R^7Q^{16} + 9P^3R^6Q^{16} + 12P^2R^7Q^{15} + \\
& 43P^5R^6Q^{15} + 65PR^8Q^{14} + 36P^4R^7Q^{14} + 67R^9Q^{13} + 11P^3R^8Q^{13} + 90P^2R^9Q^{12} + 48P^5R^8Q^{12} + \\
& 85PR^{10}Q^{11} + 11P^4R^9Q^{11} + 32R^{11}Q^{10} + 38P^3R^{10}Q^{10} + 91P^2R^{11}Q^9 + 51P^5R^{10}Q^9 + 74PR^{12}Q^8 + \\
& 68P^4R^{11}Q^8 + 23R^{13}Q^7 + 28P^3R^{12}Q^7 + 41P^2R^{13}Q^6 + 54P^5R^{12}Q^6 + 72PR^{14}Q^5 + 60P^4R^{13}Q^5 + \\
& 71R^{15}Q^4 + 53P^3R^{14}Q^4 + 41P^2R^{15}Q^3 + 43P^5R^{14}Q^3 + 92PR^{16}Q^2 + 18P^4R^{15}Q^2 + 76R^{17}Q + \\
& 18P^3R^{16}Q + 24P^2R^{17} + 39P^5R^{16})
\end{aligned}$$

$$\begin{aligned}
& = (Q^3 - R^2)^9 - 101(2Q^{27} - 12P^2Q^{26} - 58P^4Q^{25} - 16PRQ^{25} - 39P^6Q^{24} + 31R^2Q^{24} + \\
& 32P^3RQ^{24} + 27P^2R^2Q^{23} + 36P^5RQ^{23} + 8PR^3Q^{22} - 28P^4R^2Q^{22} + 19R^4Q^{21} + 60P^3R^3Q^{21} - \\
& 25P^6R^2Q^{21} - 15P^2R^4Q^{20} - 42P^5R^3Q^{20} - 4PR^5Q^{19} - 22P^4R^4Q^{19} + 68R^6Q^{18} + 36P^3R^5Q^{18} - \\
& 46P^6R^4Q^{18} - 69P^2R^6Q^{17} + 36P^5R^5Q^{17} + 28PR^7Q^{16} + 16P^4R^6Q^{16} + 77R^8Q^{15} - 43P^6R^6Q^{15} - \\
& 12P^2R^8Q^{14} + 12P^5R^7Q^{14} + 18PR^9Q^{13} + 17P^4R^8Q^{13} + 55R^{10}Q^{12} - 64P^3R^9Q^{12} - 48P^6R^8Q^{12} + \\
& 15P^2R^{10}Q^{11} + 42P^5R^9Q^{11} + 58PR^{11}Q^{10} + 13P^4R^{10}Q^{10} + 32R^{12}Q^9 - 56P^3R^{11}Q^9 - 51P^6R^{10}Q^9 - \\
& 12P^2R^{12}Q^8 - 12P^5R^{11}Q^8 + 60PR^{13}Q^7 + 42P^4R^{12}Q^7 + 70R^{14}Q^6 + 12P^3R^{13}Q^6 - 54P^6R^{12}Q^6 - \\
& 27P^2R^{14}Q^5 - 12P^5R^{13}Q^5 + 28PR^{15}Q^4 - 24P^4R^{14}Q^4 + 89R^{16}Q^3 - 16P^3R^{15}Q^3 - 43P^6R^{14}Q^3 - \\
& 66P^2R^{16}Q^2 + 24P^5R^{15}Q^2 - 72PR^{17}Q - 15P^4R^{16}Q + 3R^{18} - 24P^3R^{17} - 39P^6R^{16})
\end{aligned}$$

$$12^6\vartheta^6(83Q^{24} + 4R^2Q^{21} + 72R^4Q^{18} + 19R^6Q^{15} + 40R^8Q^{12} + 93R^{10}Q^9 + 45R^{12}Q^6 + 19R^{14}Q^3 + 83R^{16}) \equiv (Q^3 - R^2)^9 \pmod{101}$$

$$p_4(101t + 84) \equiv 0 \pmod{101}$$

$$\begin{aligned}
& 12\vartheta(84RQ^{49} + 57R^3Q^{46} + 97R^5Q^{43} + 47R^7Q^{40} + 86R^9Q^{37} + 57R^{11}Q^{34} + 32R^{13}Q^{31} + 71R^{15}Q^{28} + \\
& 58R^{17}Q^{25} + 72R^{19}Q^{22} + 15R^{21}Q^{19} + 58R^{23}Q^{16} + 35R^{25}Q^{13} + 87R^{27}Q^{10} + 62R^{29}Q^7 + 100R^{31}Q^4 + \\
& 76R^{33}Q)
\end{aligned}$$

$$\begin{aligned}
& = (Q^3 - R^2)^{17} - 101(5Q^{51} - 168PRQ^{49} + 173R^2Q^{48} - 114PR^3Q^{46} + 134R^4Q^{45} - 194PR^5Q^{43} + \\
& 178R^6Q^{42} - 94PR^7Q^{40} + 144R^8Q^{39} - 172PR^9Q^{37} + 102R^{10}Q^{36} - 114PR^{11}Q^{34} + 224R^{12}Q^{33} - \\
& 64PR^{13}Q^{31} - 90R^{14}Q^{30} - 142PR^{15}Q^{28} + 378R^{16}Q^{27} - 116PR^{17}Q^{25} - 102R^{18}Q^{24} - 144PR^{19}Q^{22} + \\
& 274R^{20}Q^{21} - 30PR^{21}Q^{19} - 32R^{22}Q^{18} - 116PR^{23}Q^{16} + 150R^{24}Q^{15} - 70PR^{25}Q^{13} + 134R^{26}Q^{12} - \\
& 174PR^{27}Q^{10} + 148R^{28}Q^9 - 124PR^{29}Q^7 + 200R^{30}Q^6 - 200PR^{31}Q^4 + 165R^{32}Q^3 - 152PR^{33}Q + \\
& 3R^{34})
\end{aligned}$$

$$p_8(101t + 67) \equiv 0 \pmod{101}$$

$$\begin{aligned}
& 12\vartheta(35PQ^{101} + 95RQ^{100} + 90P^2RQ^{99} + 85PR^2Q^{98} + 80R^3Q^{97} + 84P^2R^3Q^{96} + 59PR^4Q^{95} + \\
& 22R^5Q^{94} + 95P^2R^5Q^{93} + 97PR^6Q^{92} + 37R^7Q^{91} + 29P^2R^7Q^{90} + 31PR^8Q^{89} + 34R^9Q^{88} + \\
& 56P^2R^9Q^{87} + 51PR^{10}Q^{86} + 75R^{11}Q^{85} + 59P^2R^{11}Q^{84} + 71PR^{12}Q^{83} + 31R^{13}Q^{82} + 64P^2R^{13}Q^{81} + \\
& 24PR^{14}Q^{80} + 77R^{15}Q^{79} + 19P^2R^{15}Q^{78} + 18PR^{16}Q^{77} + 52R^{17}Q^{76} + 49P^2R^{17}Q^{75} + 89PR^{18}Q^{74} + \\
& 93R^{19}Q^{73} + 57P^2R^{19}Q^{72} + 10PR^{20}Q^{71} + 55R^{21}Q^{70} + 75P^2R^{21}Q^{69} + 70PR^{22}Q^{68} + 38R^{23}Q^{67} + \\
& 73P^2R^{23}Q^{66} + 23PR^{24}Q^{65} + 66R^{25}Q^{64} + 73P^2R^{25}Q^{63} + 82PR^{26}Q^{62} + 81R^{27}Q^{61} + 69P^2R^{27}Q^{60} + \\
& 33PR^{28}Q^{59} + 29R^{29}Q^{58} + 60P^2R^{29}Q^{57} + 63PR^{30}Q^{56} + 77R^{31}Q^{55} + 62P^2R^{31}Q^{54} + 75PR^{32}Q^{53} + \\
& 95R^{33}Q^{52} + 72P^2R^{33}Q^{51} + 52PR^{34}Q^{50} + 100R^{35}Q^{49} + 39P^2R^{35}Q^{48} + 45PR^{36}Q^{47} + R^{37}Q^{46} + \\
& 47P^2R^{37}Q^{45} + 44PR^{38}Q^{44} + 94R^{39}Q^{43} + 40P^2R^{39}Q^{42} + 17PR^{40}Q^{41} + 82R^{41}Q^{40} + 29P^2R^{41}Q^{39} + \\
& 11PR^{42}Q^{38} + 92R^{43}Q^{37} + 15P^2R^{43}Q^{36} + 70PR^{44}Q^{35} + 87R^{45}Q^{34} + 97P^2R^{45}Q^{33} + 42PR^{46}Q^{32} + \\
& 60R^{47}Q^{31} + 45P^2R^{47}Q^{30} + 13PR^{48}Q^{29} + 36R^{49}Q^{28} + 15P^2R^{49}Q^{27} + 51PR^{50}Q^{26} + 99R^{51}Q^{25} + \\
& 83P^2R^{51}Q^{24} + 9PR^{52}Q^{23} + 37R^{53}Q^{22} + 35P^2R^{53}Q^{21} + 81PR^{54}Q^{20} + 28R^{55}Q^{19} + 40P^2R^{55}Q^{18} + \\
& 60PR^{56}Q^{17} + 97R^{57}Q^{16} + 52P^2R^{57}Q^{15} + 46PR^{58}Q^{14} + 18R^{59}Q^{13} + 13P^2R^{59}Q^{12} + 17PR^{60}Q^{11} + \\
& 84R^{61}Q^{10} + 8P^2R^{61}Q^9 + 6PR^{62}Q^8 + 78R^{63}Q^7 + 73P^2R^{63}Q^6 + 100PR^{64}Q^5 + 95R^{65}Q^4 + \\
& 17P^2R^{65}Q^3 + 79PR^{66}Q^2 + 25R^{67}Q + 12P^2R^{67})
\end{aligned}$$

$$\begin{aligned}
&= (Q^3 - R^2)^{34} - 101(6Q^{102} - 135P^2Q^{101} - 230PRQ^{100} + 391R^2Q^{99} - 360P^3RQ^{99} + \\
&27P^2R^2Q^{98} + 24PR^3Q^{97} + 320R^4Q^{96} - 336P^3R^3Q^{96} + 111P^2R^4Q^{95} + 170PR^5Q^{94} + \\
&39R^6Q^{93} - 380P^3R^5Q^{93} - 27P^2R^6Q^{92} + 220PR^7Q^{91} + 611R^8Q^{90} - 116P^3R^7Q^{90} + \\
&9P^2R^8Q^{89} + 4PR^9Q^{88} - 2587R^{10}Q^{87} - 224P^3R^9Q^{87} + 27P^2R^{10}Q^{86} - 76PR^{11}Q^{85} + \\
&13593R^{12}Q^{84} - 236P^3R^{11}Q^{84} - 39P^2R^{12}Q^{83} + 130PR^{13}Q^{82} - 53094R^{14}Q^{81} - 256P^3R^{13}Q^{81} + \\
&126P^2R^{14}Q^{80} - 216PR^{15}Q^{79} + 180058R^{16}Q^{78} - 76P^3R^{15}Q^{78} + 36P^2R^{16}Q^{77} - 58PR^{17}Q^{76} - \\
&519057R^{18}Q^{75} - 196P^3R^{17}Q^{75} - 147P^2R^{18}Q^{74} - 100PR^{19}Q^{73} + 1298636R^{20}Q^{72} - \\
&228P^3R^{19}Q^{72} + 216P^2R^{20}Q^{71} - 100PR^{21}Q^{70} - 2832446R^{22}Q^{69} - 300P^3R^{21}Q^{69} + 24P^2R^{22}Q^{68} + \\
&70PR^{23}Q^{67} + 5429447R^{24}Q^{66} - 292P^3R^{23}Q^{66} + 207P^2R^{24}Q^{65} - 78PR^{25}Q^{64} - 9187660R^{26}Q^{63} - \\
&292P^3R^{25}Q^{63} - 36P^2R^{26}Q^{62} - 68PR^{27}Q^{61} + 13782183R^{28}Q^{60} - 276P^3R^{27}Q^{60} + 135P^2R^{28}Q^{59} + \\
&74PR^{29}Q^{58} - 18375707R^{30}Q^{57} - 240P^3R^{29}Q^{57} - 3P^2R^{30}Q^{56} - 26PR^{31}Q^{55} + 21821755R^{32}Q^{54} - \\
&248P^3R^{31}Q^{54} - 27P^2R^{32}Q^{53} - 118PR^{33}Q^{52} - 23104608R^{34}Q^{51} - 288P^3R^{33}Q^{51} + \\
&18P^2R^{34}Q^{50} - 202PR^{35}Q^{49} + 21821597R^{36}Q^{48} - 156P^3R^{35}Q^{48} - 3P^2R^{36}Q^{47} + 180PR^{37}Q^{46} - \\
&18375696R^{38}Q^{45} - 188P^3R^{37}Q^{45} - 260PR^{39}Q^{43} + 13782297R^{40}Q^{42} - 160P^3R^{39}Q^{42} + \\
&69P^2R^{40}Q^{41} - 274PR^{41}Q^{40} - 9187593R^{42}Q^{39} - 116P^3R^{41}Q^{39} + 39P^2R^{42}Q^{38} - 170PR^{43}Q^{37} + \\
&5429616R^{44}Q^{36} - 60P^3R^{43}Q^{36} - 136PR^{45}Q^{34} - 2832366R^{46}Q^{33} - 388P^3R^{45}Q^{33} + 84P^2R^{46}Q^{32} - \\
&150PR^{47}Q^{31} + 1298477R^{48}Q^{30} - 180P^3R^{47}Q^{30} + 45P^2R^{48}Q^{29} + 22PR^{49}Q^{28} - 518979R^{50}Q^{27} - \\
&60P^3R^{49}Q^{27} + 63P^2R^{50}Q^{26} - 316PR^{51}Q^{25} + 179979R^{52}Q^{24} - 332P^3R^{51}Q^{24} + 153P^2R^{52}Q^{23} + \\
&120PR^{53}Q^{22} - 53139R^{54}Q^{21} - 140P^3R^{53}Q^{21} - 165P^2R^{54}Q^{20} + 152PR^{55}Q^{19} + 13666R^{56}Q^{18} - \\
&160P^3R^{55}Q^{18} - 36P^2R^{56}Q^{17} - 190PR^{57}Q^{16} - 2630R^{58}Q^{15} - 208P^3R^{57}Q^{15} - 108P^2R^{58}Q^{14} + \\
&14PR^{59}Q^{13} + 773R^{60}Q^{12} - 52P^3R^{59}Q^{12} - 33P^2R^{60}Q^{11} - 308PR^{61}Q^{10} + 266R^{62}Q^9 - \\
&32P^3R^{61}Q^9 + 252P^2R^{62}Q^8 + 70PR^{63}Q^7 + 395R^{64}Q^6 - 292P^3R^{63}Q^6 - 318P^2R^{64}Q^5 - \\
&52PR^{65}Q^4 + 115R^{66}Q^3 - 68P^3R^{65}Q^3 - 267P^2R^{66}Q^2 - 94PR^{67}Q + R^{68} - 48P^3R^{67})
\end{aligned}$$

$$\begin{aligned}
&12^3\vartheta^3(45RQ^{99} + 42R^3Q^{96} + 98R^5Q^{93} + 65R^7Q^{90} + 28R^9Q^{87} + 80R^{11}Q^{84} + 32R^{13}Q^{81} + 60R^{15}Q^{78} + \\
&75R^{17}Q^{75} + 79R^{19}Q^{72} + 88R^{21}Q^{69} + 87R^{23}Q^{66} + 87R^{25}Q^{63} + 85R^{27}Q^{60} + 30R^{29}Q^{57} + 31R^{31}Q^{54} + \\
&36R^{33}Q^{51} + 70R^{35}Q^{48} + 74R^{37}Q^{45} + 20R^{39}Q^{42} + 65R^{41}Q^{39} + 58R^{43}Q^{36} + 99R^{45}Q^{33} + 73R^{47}Q^{30} + \\
&58R^{49}Q^{27} + 92R^{51}Q^{24} + 68R^{53}Q^{21} + 20R^{55}Q^{18} + 26R^{57}Q^{15} + 57R^{59}Q^{12} + 4R^{61}Q^9 + 87R^{63}Q^6 + \\
&59R^{65}Q^3 + 6R^{67}) \equiv (Q^3 - R^2)^{34} \pmod{101}
\end{aligned}$$

$$p_{10}(103t + 94) \equiv 0 \pmod{103}$$

$$\begin{aligned}
&12\vartheta(98PQ^{26} + 30P^3Q^{25} + 35RQ^{25} + 52P^2RQ^{24} + 52PR^2Q^{23} + 95R^3Q^{22} + 29P^3R^2Q^{22} + \\
&4P^2R^3Q^{21} + 74PR^4Q^{20} + 61R^5Q^{19} + 14P^3R^4Q^{19} + 61P^2R^5Q^{18} + 69PR^6Q^{17} + 69R^7Q^{16} + \\
&78P^3R^6Q^{16} + 55P^2R^7Q^{15} + 18PR^8Q^{14} + 30R^9Q^{13} + 101P^3R^8Q^{13} + 77P^2R^9Q^{12} + 92PR^{10}Q^{11} + \\
&83R^{11}Q^{10} + 94P^3R^{10}Q^{10} + 58P^2R^{11}Q^9 + 10PR^{12}Q^8 + 83R^{13}Q^7 + 43P^3R^{12}Q^7 + 92P^2R^{13}Q^6 + \\
&8PR^{14}Q^5 + 34R^{15}Q^4 + 26P^3R^{14}Q^4 + 32P^2R^{15}Q^3 + 91PR^{16}Q^2 + 26R^{17}Q + 99P^3R^{16}Q + 87P^2R^{17}) \\
&= (Q^3 - R^2)^9 - 103(3Q^{27} - 96P^2Q^{26} - 30P^4Q^{25} + 70PRQ^{25} + 51R^2Q^{24} - 20P^3RQ^{24} - \\
&3P^2R^2Q^{23} - 34PR^3Q^{22} - 29P^4R^2Q^{22} + 100R^4Q^{21} + 24P^3R^3Q^{21} - 54P^2R^4Q^{20} + 20PR^5Q^{19} - \\
&14P^4R^4Q^{19} + 73R^6Q^{18} - 24P^3R^5Q^{18} - 3P^2R^6Q^{17} - 16PR^7Q^{16} - 78P^4R^6Q^{16} + 60R^8Q^{15} + \\
&40P^3R^7Q^{15} + 57P^2R^8Q^{14} + 34PR^9Q^{13} - 101P^4R^8Q^{13} + 68R^{10}Q^{12} + 28P^3R^9Q^{12} - 18P^2R^{10}Q^{11} - \\
&38PR^{11}Q^{10} - 94P^4R^{10}Q^{10} + 96R^{12}Q^9 + 8P^3R^{11}Q^9 + 81P^2R^{12}Q^8 - 74PR^{13}Q^7 - 43P^4R^{12}Q^7 + \\
&52R^{14}Q^6 - 60P^3R^{13}Q^6 + 42P^2R^{14}Q^5 + 52PR^{15}Q^4 - 26P^4R^{14}Q^4 + 32R^{16}Q^3 + 64P^3R^{15}Q^3 - \\
&18PR^{17}Q - 99P^4R^{16}Q + R^{18} - 84P^3R^{17})
\end{aligned}$$

$$\begin{aligned}
&12^4\vartheta^4(98Q^{25} + 81R^2Q^{22} + 32R^4Q^{19} + 90R^6Q^{16} + 69R^8Q^{13} + 53R^{10}Q^{10} + 10R^{12}Q^7 + 30R^{14}Q^4 + \\
&35R^{16}Q) \equiv (Q^3 - R^2)^9 \pmod{103}
\end{aligned}$$

$$p_6(103t + 77) \equiv 0 \pmod{103}$$

$$\begin{aligned} & 12\vartheta(2PQ^{77} + 51RQ^{76} + 13PR^2Q^{74} + 95R^3Q^{73} + 11PR^4Q^{71} + 101R^5Q^{70} + 102PR^6Q^{68} + \\ & 63R^7Q^{67} + 22PR^8Q^{65} + 9R^9Q^{64} + 37PR^{10}Q^{62} + 42R^{11}Q^{61} + 82PR^{12}Q^{59} + 64R^{13}Q^{58} + \\ & 99PR^{14}Q^{56} + 69R^{15}Q^{55} + 24PR^{16}Q^{53} + 34R^{17}Q^{52} + 81PR^{18}Q^{50} + 28R^{19}Q^{49} + 6PR^{20}Q^{47} + \\ & 78R^{21}Q^{46} + 81PR^{22}Q^{44} + 21R^{23}Q^{43} + 2PR^{24}Q^{41} + 61R^{25}Q^{40} + 28PR^{26}Q^{38} + 71R^{27}Q^{37} + \\ & 102PR^{28}Q^{35} + 55R^{29}Q^{34} + 44PR^{30}Q^{32} + 71R^{31}Q^{31} + 22PR^{32}Q^{29} + 12R^{33}Q^{28} + 34PR^{34}Q^{26} + \\ & 53R^{35}Q^{25} + 74PR^{36}Q^{23} + 20R^{37}Q^{22} + 66PR^{38}Q^{20} + 54R^{39}Q^{19} + 22PR^{40}Q^{17} + 43R^{41}Q^{16} + \\ & 2PR^{42}Q^{14} + 83R^{43}Q^{13} + 51PR^{44}Q^{11} + 12R^{45}Q^{10} + 77PR^{46}Q^8 + 96R^{47}Q^7 + 49PR^{48}Q^5 + 5R^{49}Q^4 + \\ & 74PR^{50}Q^2 + 77R^{51}Q) \end{aligned}$$

$$\begin{aligned} & = (Q^3 - R^2)^{26} - 103(3Q^{78} - 6P^2Q^{77} - 146PRQ^{76} + 167R^2Q^{75} - 39P^2R^2Q^{74} - \\ & 246PR^3Q^{73} + 302R^4Q^{72} - 33P^2R^4Q^{71} - 238PR^5Q^{70} + 276R^6Q^{69} - 306P^2R^6Q^{68} + 90PR^7Q^{67} + \\ & 314R^8Q^{66} - 66P^2R^8Q^{65} + 50PR^9Q^{64} - 589R^{10}Q^{63} - 111P^2R^{10}Q^{62} + 20PR^{11}Q^{61} + 2384R^{12}Q^{60} - \\ & 246P^2R^{12}Q^{59} + 76PR^{13}Q^{58} - 6181R^{14}Q^{57} - 297P^2R^{14}Q^{56} + 30PR^{15}Q^{55} + 15349R^{16}Q^{54} - \\ & 72P^2R^{16}Q^{53} + 32PR^{17}Q^{52} - 30235R^{18}Q^{51} - 243P^2R^{18}Q^{50} + 80PR^{19}Q^{49} + 51719R^{20}Q^{48} - \\ & 18P^2R^{20}Q^{47} - 120PR^{21}Q^{46} - 74843R^{22}Q^{45} - 243P^2R^{22}Q^{44} + 78PR^{23}Q^{43} + 93888R^{24}Q^{42} - \\ & 6P^2R^{24}Q^{41} - 138PR^{25}Q^{40} - 100770R^{26}Q^{39} - 84P^2R^{26}Q^{38} - 6PR^{27}Q^{37} + 93960R^{28}Q^{36} - \\ & 306P^2R^{28}Q^{35} + 50PR^{29}Q^{34} - 74810R^{30}Q^{33} - 132P^2R^{30}Q^{32} - 118PR^{31}Q^{31} + 51679R^{32}Q^{30} - \\ & 66P^2R^{32}Q^{29} + 56PR^{33}Q^{28} - 30214R^{34}Q^{27} - 102P^2R^{34}Q^{26} + 30PR^{35}Q^{25} + 15263R^{36}Q^{24} - \\ & 222P^2R^{36}Q^{23} + 152PR^{37}Q^{22} - 6246R^{38}Q^{21} - 198P^2R^{38}Q^{20} - 60PR^{39}Q^{19} + 2378R^{40}Q^{18} - \\ & 66P^2R^{40}Q^{17} - 110PR^{41}Q^{16} - 404R^{42}Q^{15} - 6P^2R^{42}Q^{14} - 118PR^{43}Q^{13} + 219R^{44}Q^{12} - \\ & 153P^2R^{44}Q^{11} + 192PR^{45}Q^{10} + 243R^{46}Q^9 - 231P^2R^{46}Q^8 - 128PR^{47}Q^7 + 44R^{48}Q^6 - \\ & 147P^2R^{48}Q^5 + 210PR^{49}Q^4 + 230R^{50}Q^3 - 222P^2R^{50}Q^2 - 226PR^{51}Q + 3R^{52}) \end{aligned}$$

$$\begin{aligned} & 12^2\vartheta^2(101Q^{77} + 90R^2Q^{74} + 92R^4Q^{71} + R^6Q^{68} + 81R^8Q^{65} + 66R^{10}Q^{62} + 21R^{12}Q^{59} + 4R^{14}Q^{56} + \\ & 79R^{16}Q^{53} + 22R^{18}Q^{50} + 97R^{20}Q^{47} + 22R^{22}Q^{44} + 101R^{24}Q^{41} + 75R^{26}Q^{38} + R^{28}Q^{35} + 59R^{30}Q^{32} + \\ & 81R^{32}Q^{29} + 69R^{34}Q^{26} + 29R^{36}Q^{23} + 37R^{38}Q^{20} + 81R^{40}Q^{17} + 101R^{42}Q^{14} + 52R^{44}Q^{11} + 26R^{46}Q^8 + \\ & 54R^{48}Q^5 + 29R^{50}Q^2) \equiv (Q^3 - R^2)^{26} \pmod{103} \end{aligned}$$

$$p_4(107t + 89) \equiv 0 \pmod{107}$$

$$\begin{aligned} & 12\vartheta(89RQ^{52} + 102R^3Q^{49} + 24R^5Q^{46} + 6R^7Q^{43} + 55R^9Q^{40} + 97R^{11}Q^{37} + 91R^{13}Q^{34} + 33R^{15}Q^{31} + \\ & 47R^{17}Q^{28} + 3R^{19}Q^{25} + 7R^{21}Q^{22} + 23R^{23}Q^{19} + 90R^{25}Q^{16} + 53R^{27}Q^{13} + 17R^{29}Q^{10} + 41R^{31}Q^7 + \\ & 88R^{33}Q^4 + 80R^{35}Q) \end{aligned}$$

$$\begin{aligned} & = (Q^3 - R^2)^{18} - 107(5Q^{54} - 178PRQ^{52} + 190R^2Q^{51} - 204PR^3Q^{49} + 195R^4Q^{48} - 48PR^5Q^{46} + \\ & 36R^6Q^{45} - 12PR^7Q^{43} + 66R^8Q^{42} - 110PR^9Q^{40} + 62R^{10}Q^{39} - 194PR^{11}Q^{37} + 374R^{12}Q^{36} - \\ & 182PR^{13}Q^{34} - 154R^{14}Q^{33} - 66PR^{15}Q^{31} + 492R^{16}Q^{30} - 94PR^{17}Q^{28} - 402R^{18}Q^{27} - 6PR^{19}Q^{25} + \\ & 420R^{20}Q^{24} - 14PR^{21}Q^{22} - 262R^{22}Q^{21} - 46PR^{23}Q^{19} + 316R^{24}Q^{18} - 180PR^{25}Q^{16} + 54R^{26}Q^{15} - \\ & 106PR^{27}Q^{13} + 82R^{28}Q^{12} - 34PR^{29}Q^{10} + 70R^{30}Q^9 - 82PR^{31}Q^7 + 175R^{32}Q^6 - 176PR^{33}Q^4 + \\ & 170R^{34}Q^3 - 160PR^{35}Q + 3R^{36}) \end{aligned}$$

$$p_6(107t + 80) \equiv 0 \pmod{107}$$

$$\begin{aligned} & 12\vartheta(30PQ^{80} + 84RQ^{79} + 63PR^2Q^{77} + 57R^3Q^{76} + 90PR^4Q^{74} + 39R^5Q^{73} + 19PR^6Q^{71} + 63R^7Q^{70} + \\ & 65PR^8Q^{68} + 3R^9Q^{67} + 46PR^{10}Q^{65} + 56R^{11}Q^{64} + 13PR^{12}Q^{62} + 50R^{13}Q^{61} + 31PR^{14}Q^{59} + \\ & 69R^{15}Q^{58} + 46PR^{16}Q^{56} + 30R^{17}Q^{55} + 105PR^{18}Q^{53} + 22R^{19}Q^{52} + 59PR^{20}Q^{50} + 67R^{21}Q^{49} + \\ & 40PR^{22}Q^{47} + 60R^{23}Q^{46} + 76PR^{24}Q^{44} + 70R^{25}Q^{43} + 56PR^{26}Q^{41} + 50R^{27}Q^{40} + 59PR^{28}Q^{38} + \\ & 51R^{29}Q^{37} + 64PR^{30}Q^{35} + 35R^{31}Q^{34} + 2PR^{32}Q^{32} + 20R^{33}Q^{31} + 45PR^{34}Q^{29} + 102R^{35}Q^{28} + \\ & 9PR^{36}Q^{26} + 14R^{37}Q^{25} + 87PR^{38}Q^{23} + 56R^{39}Q^{22} + 40PR^{40}Q^{20} + 81R^{41}Q^{19} + 39PR^{42}Q^{17} + \end{aligned}$$

$$\begin{aligned}
& 67R^{43}Q^{16} + 66PR^{44}Q^{14} + 78R^{45}Q^{13} + 59PR^{46}Q^{11} + 89R^{47}Q^{10} + 63PR^{48}Q^8 + 84R^{49}Q^7 + \\
& 92PR^{50}Q^5 + 4R^{51}Q^4 + 97PR^{52}Q^2 + 27R^{53}Q) \\
& = (Q^3 - R^2)^{27} - 107(5Q^{81} - 90P^2Q^{80} - 156PRQ^{79} + 258R^2Q^{78} - 189P^2R^2Q^{77} + 30PR^3Q^{76} + \\
& 177R^4Q^{75} - 270P^2R^4Q^{74} + 138PR^5Q^{73} + 104R^6Q^{72} - 57P^2R^6Q^{71} - 110PR^7Q^{70} + 331R^8Q^{69} - \\
& 195P^2R^8Q^{68} + 182PR^9Q^{67} - 712R^{10}Q^{66} - 138P^2R^{10}Q^{65} - 48PR^{11}Q^{64} + 2937R^{12}Q^{63} - \\
& 39P^2R^{12}Q^{62} - 96PR^{13}Q^{61} - 8127R^{14}Q^{60} - 93P^2R^{14}Q^{59} - 98PR^{15}Q^{58} + 20927R^{16}Q^{57} - \\
& 138P^2R^{16}Q^{56} + 112PR^{17}Q^{55} - 43716R^{18}Q^{54} - 315P^2R^{18}Q^{53} + 208PR^{19}Q^{52} + 78966R^{20}Q^{51} - \\
& 177P^2R^{20}Q^{50} - 42PR^{21}Q^{49} - 121649R^{22}Q^{48} - 120P^2R^{22}Q^{47} - 8PR^{23}Q^{46} + 162668R^{24}Q^{45} - \\
& 228P^2R^{24}Q^{44} - 4PR^{25}Q^{43} - 187272R^{26}Q^{42} - 168P^2R^{26}Q^{41} + 28PR^{27}Q^{40} + 187619R^{28}Q^{39} - \\
& 177P^2R^{28}Q^{38} + 38PR^{29}Q^{37} - 162334R^{30}Q^{36} - 192P^2R^{30}Q^{35} - 18PR^{31}Q^{34} + 121931R^{32}Q^{33} - \\
& 6P^2R^{32}Q^{32} + 28PR^{33}Q^{31} - 78620R^{34}Q^{30} - 135P^2R^{34}Q^{29} - 240PR^{35}Q^{28} + 43938R^{36}Q^{27} - \\
& 27P^2R^{36}Q^{26} + 152PR^{37}Q^{25} - 20612R^{38}Q^{24} - 261P^2R^{38}Q^{23} - 4PR^{39}Q^{22} + 8532R^{40}Q^{21} - \\
& 120P^2R^{40}Q^{20} - 122PR^{41}Q^{19} - 2547R^{42}Q^{18} - 117P^2R^{42}Q^{17} - 14PR^{43}Q^{16} + 992R^{44}Q^{15} - \\
& 198P^2R^{44}Q^{14} - 48PR^{45}Q^{13} + 109R^{46}Q^{12} - 177P^2R^{46}Q^{11} - 74PR^{47}Q^{10} + 292R^{48}Q^9 - \\
& 189P^2R^{48}Q^8 + 24PR^{49}Q^7 + 31R^{50}Q^6 - 276P^2R^{50}Q^5 + 288PR^{51}Q^4 + 82R^{52}Q^3 - 291P^2R^{52}Q^2 - \\
& 74PR^{53}Q + R^{54})
\end{aligned}$$

$$\begin{aligned}
& 12^2 \vartheta^2 (77Q^{80} + 44R^2Q^{77} + 17R^4Q^{74} + 88R^6Q^{71} + 42R^8Q^{68} + 61R^{10}Q^{65} + 94R^{12}Q^{62} + 76R^{14}Q^{59} + \\
& 61R^{16}Q^{56} + 2R^{18}Q^{53} + 48R^{20}Q^{50} + 67R^{22}Q^{47} + 31R^{24}Q^{44} + 51R^{26}Q^{41} + 48R^{28}Q^{38} + 43R^{30}Q^{35} + \\
& 105R^{32}Q^{32} + 62R^{34}Q^{29} + 98R^{36}Q^{26} + 20R^{38}Q^{23} + 67R^{40}Q^{20} + 68R^{42}Q^{17} + 41R^{44}Q^{14} + 48R^{46}Q^{11} + \\
& 44R^{48}Q^8 + 15R^{50}Q^5 + 10R^{52}Q^2) \equiv (Q^3 - R^2)^{27} \pmod{107}
\end{aligned}$$

$$p_8(107t + 71) \equiv 0 \pmod{107}$$

$$\begin{aligned}
& 12\vartheta(59PQ^{107} + 97RQ^{106} + 99P^2RQ^{105} + 71PR^2Q^{104} + 85R^3Q^{103} + 42P^2R^3Q^{102} + 48PR^4Q^{101} + \\
& 37R^5Q^{100} + 51P^2R^5Q^{99} + 55PR^6Q^{98} + 94R^7Q^{97} + 58P^2R^7Q^{96} + 16PR^8Q^{95} + 102R^9Q^{94} + \\
& 59PR^{10}Q^{92} + 54R^{11}Q^{91} + 9P^2R^{11}Q^{90} + 95PR^{12}Q^{89} + 12R^{13}Q^{88} + 90P^2R^{13}Q^{87} + 49PR^{14}Q^{86} + \\
& 77R^{15}Q^{85} + 96P^2R^{15}Q^{84} + 67PR^{16}Q^{83} + 26R^{17}Q^{82} + 82P^2R^{17}Q^{81} + 7PR^{18}Q^{80} + 76R^{19}Q^{79} + \\
& 27P^2R^{19}Q^{78} + 41PR^{20}Q^{77} + 68R^{21}Q^{76} + 60P^2R^{21}Q^{75} + 99PR^{22}Q^{74} + 54R^{23}Q^{73} + 68P^2R^{23}Q^{72} + \\
& 43PR^{24}Q^{71} + 2R^{25}Q^{70} + 93P^2R^{25}Q^{69} + 103PR^{26}Q^{68} + 92R^{27}Q^{67} + 41P^2R^{27}Q^{66} + 16PR^{28}Q^{65} + \\
& 74R^{29}Q^{64} + 99P^2R^{29}Q^{63} + 42PR^{30}Q^{62} + 57R^{31}Q^{61} + 87P^2R^{31}Q^{60} + 19PR^{32}Q^{59} + 9R^{33}Q^{58} + \\
& 80P^2R^{33}Q^{57} + 56PR^{34}Q^{56} + 14R^{35}Q^{55} + 52P^2R^{35}Q^{54} + 3PR^{36}Q^{53} + 48R^{37}Q^{52} + 81P^2R^{37}Q^{51} + \\
& 11PR^{38}Q^{50} + 38R^{39}Q^{49} + 25P^2R^{39}Q^{48} + 81PR^{40}Q^{47} + 55R^{41}Q^{46} + 3P^2R^{41}Q^{45} + 30PR^{42}Q^{44} + \\
& 77R^{43}Q^{43} + 3P^2R^{43}Q^{42} + 60PR^{44}Q^{41} + 89R^{45}Q^{40} + 15P^2R^{45}Q^{39} + 106PR^{46}Q^{38} + 51R^{47}Q^{37} + \\
& 71P^2R^{47}Q^{36} + 42PR^{48}Q^{35} + 49R^{49}Q^{34} + 68P^2R^{49}Q^{33} + 78PR^{50}Q^{32} + 16R^{51}Q^{31} + 101P^2R^{51}Q^{30} + \\
& 82PR^{52}Q^{29} + 50R^{53}Q^{28} + 18P^2R^{53}Q^{27} + 25PR^{54}Q^{26} + 2R^{55}Q^{25} + 84P^2R^{55}Q^{24} + 44PR^{56}Q^{23} + \\
& 106R^{57}Q^{22} + 41P^2R^{57}Q^{21} + 57PR^{58}Q^{20} + 94R^{59}Q^{19} + 53P^2R^{59}Q^{18} + 69PR^{60}Q^{17} + 45R^{61}Q^{16} + \\
& 38P^2R^{61}Q^{15} + 95PR^{62}Q^{14} + 76R^{63}Q^{13} + 33P^2R^{63}Q^{12} + 46PR^{64}Q^{11} + 25R^{65}Q^{10} + 63P^2R^{65}Q^9 + \\
& 79PR^{66}Q^8 + 92R^{67}Q^7 + 6P^2R^{67}Q^6 + 75PR^{68}Q^5 + 28R^{69}Q^4 + 89P^2R^{69}Q^3 + 69PR^{70}Q^2 + 80R^{71}Q + \\
& 18P^2R^{71}) \\
& = (Q^3 - R^2)^{36} - 107(6Q^{108} - 231P^2Q^{107} - 144PRQ^{106} + 399R^2Q^{105} - 396P^3RQ^{105} + \\
& 111P^2R^2Q^{104} - 54PR^3Q^{103} + 344R^4Q^{102} - 168P^3R^3Q^{102} - 18P^2R^4Q^{101} + 52PR^5Q^{100} + \\
& 109R^6Q^{99} - 204P^3R^5Q^{99} - 9P^2R^6Q^{98} - 168PR^7Q^{97} + 943R^8Q^{96} - 232P^3R^7Q^{96} + 144P^2R^8Q^{95} - \\
& 320PR^9Q^{94} - 3131R^{10}Q^{93} - 231P^2R^{10}Q^{92} + 50PR^{11}Q^{91} + 18397R^{12}Q^{90} - 36P^3R^{11}Q^{90} - \\
& 285P^2R^{12}Q^{89} + 308PR^{13}Q^{88} - 77911R^{14}Q^{87} - 360P^3R^{13}Q^{87} + 177P^2R^{14}Q^{86} - 90PR^{15}Q^{85} + \\
& 283077R^{16}Q^{84} - 384P^3R^{15}Q^{84} + 111P^2R^{16}Q^{83} + 112PR^{17}Q^{82} - 879683R^{18}Q^{81} - 328P^3R^{17}Q^{81} + \\
& 249P^2R^{18}Q^{80} - 238PR^{19}Q^{79} + 2375883R^{20}Q^{78} - 108P^3R^{19}Q^{78} - 15P^2R^{20}Q^{77} - 32PR^{21}Q^{76} - \\
& 5614739R^{22}Q^{75} - 240P^3R^{21}Q^{75} - 141P^2R^{22}Q^{74} + 116PR^{23}Q^{73} + 11698073R^{24}Q^{72} - \\
& 272P^3R^{23}Q^{72} + 141P^2R^{24}Q^{71} + 258PR^{25}Q^{70} - 21596019R^{26}Q^{69} - 372P^3R^{25}Q^{69} -
\end{aligned}$$

$$\begin{aligned}
& 111P^2R^{26}Q^{68} - 82PR^{27}Q^{67} + 35479764R^{28}Q^{66} - 164P^3R^{27}Q^{66} + 198P^2R^{28}Q^{65} - 186PR^{29}Q^{64} - \\
& 52036196R^{30}Q^{63} - 396P^3R^{29}Q^{63} + 216P^2R^{30}Q^{62} - 96PR^{31}Q^{61} + 68298017R^{32}Q^{60} - \\
& 348P^3R^{31}Q^{60} + 267P^2R^{32}Q^{59} + 114PR^{33}Q^{58} - 80350388R^{34}Q^{57} - 320P^3R^{33}Q^{57} + \\
& 48P^2R^{34}Q^{56} + 68PR^{35}Q^{55} + 84814477R^{36}Q^{54} - 208P^3R^{35}Q^{54} + 261P^2R^{36}Q^{53} - 162PR^{37}Q^{52} - \\
& 80350259R^{38}Q^{51} - 324P^3R^{37}Q^{51} + 165P^2R^{38}Q^{50} + 50PR^{39}Q^{49} + 68298067R^{40}Q^{48} - \\
& 100P^3R^{39}Q^{48} - 273P^2R^{40}Q^{47} - 8PR^{41}Q^{46} - 52036192R^{42}Q^{45} - 12P^3R^{41}Q^{45} - 108P^2R^{42}Q^{44} - \\
& 112PR^{43}Q^{43} + 35479762R^{44}Q^{42} - 12P^3R^{43}Q^{42} - 198P^2R^{44}Q^{41} + 8PR^{45}Q^{40} - 21595896R^{46}Q^{39} - \\
& 60P^3R^{45}Q^{39} - 216P^2R^{46}Q^{38} + 60PR^{47}Q^{37} + 11698128R^{48}Q^{36} - 284P^3R^{47}Q^{36} + 114P^2R^{48}Q^{35} + \\
& 78PR^{49}Q^{34} - 5614894R^{50}Q^{33} - 272P^3R^{49}Q^{33} + 60P^2R^{50}Q^{32} + 270PR^{51}Q^{31} + 2375746R^{52}Q^{30} - \\
& 404P^3R^{51}Q^{30} - 162P^2R^{52}Q^{29} - 36PR^{53}Q^{28} - 879785R^{54}Q^{27} - 72P^3R^{53}Q^{27} + 177P^2R^{54}Q^{26} + \\
& 156PR^{55}Q^{25} + 283148R^{56}Q^{24} - 336P^3R^{55}Q^{24} + 30P^2R^{56}Q^{23} - 202PR^{57}Q^{22} - 77617R^{58}Q^{21} - \\
& 164P^3R^{57}Q^{21} - 21P^2R^{58}Q^{20} - 102PR^{59}Q^{19} + 18425R^{60}Q^{18} - 212P^3R^{59}Q^{18} - 111P^2R^{60}Q^{17} + \\
& 194PR^{61}Q^{16} - 3227R^{62}Q^{15} - 152P^3R^{61}Q^{15} - 243P^2R^{62}Q^{14} - 90PR^{63}Q^{13} + 679R^{64}Q^{12} - \\
& 132P^3R^{63}Q^{12} + 60P^2R^{64}Q^{11} + 212PR^{65}Q^{10} + 289R^{66}Q^9 - 252P^3R^{65}Q^9 - 273P^2R^{66}Q^8 - \\
& 60PR^{67}Q^7 + 139R^{68}Q^6 - 24P^3R^{67}Q^6 + 45P^2R^{68}Q^5 + 174PR^{69}Q^4 + 323R^{70}Q^3 - 356P^3R^{69}Q^3 - \\
& 195P^2R^{70}Q^2 - 316PR^{71}Q + 3R^{72} - 72P^3R^{71})
\end{aligned}$$

$$\begin{aligned}
& 12^3\vartheta^3(103RQ^{105} + 21R^3Q^{102} + 79R^5Q^{99} + 29R^7Q^{96} + 58R^{11}Q^{90} + 45R^{13}Q^{87} + 48R^{15}Q^{84} + \\
& 41R^{17}Q^{81} + 67R^{19}Q^{78} + 30R^{21}Q^{75} + 34R^{23}Q^{72} + 100R^{25}Q^{69} + 74R^{27}Q^{66} + 103R^{29}Q^{63} + \\
& 97R^{31}Q^{60} + 40R^{33}Q^{57} + 26R^{35}Q^{54} + 94R^{37}Q^{51} + 66R^{39}Q^{48} + 55R^{41}Q^{45} + 55R^{43}Q^{42} + 61R^{45}Q^{39} + \\
& 89R^{47}Q^{36} + 34R^{49}Q^{33} + 104R^{51}Q^{30} + 9R^{53}Q^{27} + 42R^{55}Q^{24} + 74R^{57}Q^{21} + 80R^{59}Q^{18} + 19R^{61}Q^{15} + \\
& 70R^{63}Q^{12} + 85R^{65}Q^9 + 3R^{67}Q^6 + 98R^{69}Q^3 + 9R^{71}) \equiv (Q^3 - R^2)^{36} \pmod{107}
\end{aligned}$$

$$p_{10}(107t + 62) \equiv 0 \pmod{107}$$

$$\begin{aligned}
& 12\vartheta(19PQ^{134} + 45P^3Q^{133} + 68RQ^{133} + 73P^2RQ^{132} + 30PR^2Q^{131} + 30R^3Q^{130} + 53P^3R^2Q^{130} + \\
& 11P^2R^3Q^{129} + 79PR^4Q^{128} + 40R^5Q^{127} + 96P^3R^4Q^{127} + 49P^2R^5Q^{126} + 60PR^6Q^{125} + 87R^7Q^{124} + \\
& 5P^3R^6Q^{124} + 3P^2R^7Q^{123} + 29PR^8Q^{122} + 99R^9Q^{121} + 71P^3R^8Q^{121} + 55P^2R^9Q^{120} + 8PR^{10}Q^{119} + \\
& 25R^{11}Q^{118} + 47P^3R^{10}Q^{118} + 18P^2R^{11}Q^{117} + 71PR^{12}Q^{116} + 28P^3R^{12}Q^{115} + 104P^2R^{13}Q^{114} + \\
& 69PR^{14}Q^{113} + 101R^{15}Q^{112} + 67P^3R^{14}Q^{112} + 68P^2R^{15}Q^{111} + 77PR^{16}Q^{110} + 95R^{17}Q^{109} + \\
& 67P^3R^{16}Q^{109} + 13P^2R^{17}Q^{108} + 84PR^{18}Q^{107} + 24R^{19}Q^{106} + 12P^3R^{18}Q^{106} + 42P^2R^{19}Q^{105} + \\
& 32PR^{20}Q^{104} + 29R^{21}Q^{103} + 81P^3R^{20}Q^{103} + 104P^2R^{21}Q^{102} + 79PR^{22}Q^{101} + 55R^{23}Q^{100} + \\
& 56P^3R^{22}Q^{100} + 15P^2R^{23}Q^{99} + 52PR^{24}Q^{98} + 82R^{25}Q^{97} + 37P^3R^{24}Q^{97} + 11P^2R^{25}Q^{96} + \\
& 93PR^{26}Q^{95} + 64R^{27}Q^{94} + 61P^3R^{26}Q^{94} + 75P^2R^{27}Q^{93} + 23PR^{28}Q^{92} + 82R^{29}Q^{91} + 62P^3R^{28}Q^{91} + \\
& 59P^2R^{29}Q^{90} + 6PR^{30}Q^{89} + 49R^{31}Q^{88} + 105P^3R^{30}Q^{88} + 93P^2R^{31}Q^{87} + 94PR^{32}Q^{86} + \\
& 53R^{33}Q^{85} + 27P^3R^{32}Q^{85} + 70P^2R^{33}Q^{84} + 11PR^{34}Q^{83} + 19R^{35}Q^{82} + 55P^3R^{34}Q^{82} + 4P^2R^{35}Q^{81} + \\
& 71PR^{36}Q^{80} + 41R^{37}Q^{79} + 77P^3R^{36}Q^{79} + 81P^2R^{37}Q^{78} + 94PR^{38}Q^{77} + 48R^{39}Q^{76} + 18P^3R^{38}Q^{76} + \\
& 102P^2R^{39}Q^{75} + 20PR^{40}Q^{74} + 81R^{41}Q^{73} + 98P^3R^{40}Q^{73} + 59P^2R^{41}Q^{72} + 8PR^{42}Q^{71} + 102R^{43}Q^{70} + \\
& 51P^3R^{42}Q^{70} + 46P^2R^{43}Q^{69} + 53PR^{44}Q^{68} + 63R^{45}Q^{67} + 62P^3R^{44}Q^{67} + 47P^2R^{45}Q^{66} + 2PR^{46}Q^{65} + \\
& 17R^{47}Q^{64} + 90P^3R^{46}Q^{64} + 100P^2R^{47}Q^{63} + 30PR^{48}Q^{62} + 8R^{49}Q^{61} + 11P^3R^{48}Q^{61} + 5P^2R^{49}Q^{60} + \\
& 53PR^{50}Q^{59} + 18R^{51}Q^{58} + 97P^3R^{50}Q^{58} + 21P^2R^{51}Q^{57} + 45PR^{52}Q^{56} + 85R^{53}Q^{55} + 49P^3R^{52}Q^{55} + \\
& 10P^2R^{53}Q^{54} + 71PR^{54}Q^{53} + 19R^{55}Q^{52} + 48P^3R^{54}Q^{52} + 57P^2R^{55}Q^{51} + 77PR^{56}Q^{50} + \\
& 69R^{57}Q^{49} + 23P^3R^{56}Q^{49} + 21P^2R^{57}Q^{48} + 50PR^{58}Q^{47} + 94R^{59}Q^{46} + 28P^3R^{58}Q^{46} + 8P^2R^{59}Q^{45} + \\
& 106PR^{60}Q^{44} + 67R^{61}Q^{43} + 19P^3R^{60}Q^{43} + 19P^2R^{61}Q^{42} + 57PR^{62}Q^{41} + 40R^{63}Q^{40} + 37P^3R^{62}Q^{40} + \\
& 6P^2R^{63}Q^{39} + 103PR^{64}Q^{38} + 56R^{65}Q^{37} + 42P^3R^{64}Q^{37} + 56PR^{66}Q^{35} + 103R^{67}Q^{34} + 7P^3R^{66}Q^{34} + \\
& 50P^2R^{67}Q^{33} + 98PR^{68}Q^{32} + 93R^{69}Q^{31} + 13P^3R^{68}Q^{31} + 101P^2R^{69}Q^{30} + 47PR^{70}Q^{29} + 41R^{71}Q^{28} + \\
& 15P^3R^{70}Q^{28} + 97P^2R^{71}Q^{27} + 37PR^{72}Q^{26} + 3R^{73}Q^{25} + 59P^3R^{72}Q^{25} + 87P^2R^{73}Q^{24} + 10PR^{74}Q^{23} + \\
& 97R^{75}Q^{22} + 58P^3R^{74}Q^{22} + 90P^2R^{75}Q^{21} + 59PR^{76}Q^{20} + 38R^{77}Q^{19} + 12P^3R^{76}Q^{19} + 57P^2R^{77}Q^{18} + \\
& 96PR^{78}Q^{17} + 19R^{79}Q^{16} + 99P^3R^{78}Q^{16} + 69P^2R^{79}Q^{15} + 19PR^{80}Q^{14} + 63R^{81}Q^{13} + 5P^3R^{80}Q^{13} +
\end{aligned}$$



$$\begin{aligned}
& 60P^2R^{81}Q^{12} + 53PR^{82}Q^{11} + 51R^{83}Q^{10} + 37P^3R^{82}Q^{10} + 104P^2R^{83}Q^9 + 77PR^{84}Q^8 + 6R^{85}Q^7 + \\
& 72P^3R^{84}Q^7 + 11P^2R^{85}Q^6 + 6PR^{86}Q^5 + 36R^{87}Q^4 + 83P^3R^{86}Q^4 + 55P^2R^{87}Q^3 + 48PR^{88}Q^2 + \\
& 27R^{89}Q + 29P^3R^{88}Q + 9P^2R^{89}) \\
& = (Q^3 - R^2)^{45} - 107(4Q^{135} - 90P^2Q^{134} - 225P^4Q^{133} - 242PRQ^{133} + 343R^2Q^{132} - \\
& 136P^3RQ^{132} + 213P^2R^2Q^{131} + 14PR^3Q^{130} - 265P^4R^2Q^{130} + 167R^4Q^{129} + 224P^3R^3Q^{129} - \\
& 327P^2R^4Q^{128} + 198PR^5Q^{127} - 480P^4R^4Q^{127} + 92R^6Q^{126} + 212P^3R^5Q^{126} - 69P^2R^6Q^{125} - \\
& 144PR^7Q^{124} - 25P^4R^6Q^{124} + 1846R^8Q^{123} + 40P^3R^7Q^{123} - 102P^2R^8Q^{122} - 360PR^9Q^{121} - \\
& 355P^4R^8Q^{121} - 10955R^{10}Q^{120} + 72P^3R^9Q^{120} + 219P^2R^{10}Q^{119} - 42PR^{11}Q^{118} - 235P^4R^{10}Q^{118} + \\
& 76233R^{12}Q^{117} + 136P^3R^{11}Q^{117} - 201P^2R^{12}Q^{116} + 364PR^{13}Q^{115} - 140P^4R^{12}Q^{115} - \\
& 424023R^{14}Q^{114} - 348P^3R^{13}Q^{114} + 156P^2R^{14}Q^{113} - 146PR^{15}Q^{112} - 335P^4R^{14}Q^{112} + \\
& 2015030R^{16}Q^{111} - 90P^2R^{16}Q^{110} - 76PR^{17}Q^{109} - 335P^4R^{16}Q^{109} - 8281485R^{18}Q^{108} + \\
& 220P^3R^{17}Q^{108} - 324P^2R^{18}Q^{107} + 252PR^{19}Q^{106} - 60P^4R^{18}Q^{106} + 29814964R^{20}Q^{105} - \\
& 72P^3R^{19}Q^{105} + 129P^2R^{20}Q^{104} + 78PR^{21}Q^{103} - 405P^4R^{20}Q^{103} - 94865199R^{22}Q^{102} - \\
& 140P^3R^{21}Q^{102} + 21P^2R^{22}Q^{101} + 92PR^{23}Q^{100} - 280P^4R^{22}Q^{100} + 268785571R^{24}Q^{99} + \\
& 184P^3R^{23}Q^{99} - 189P^2R^{24}Q^{98} - 86PR^{25}Q^{97} - 185P^4R^{24}Q^{97} - 682300624R^{26}Q^{96} + \\
& 168P^3R^{25}Q^{96} - 312P^2R^{26}Q^{95} + 46PR^{27}Q^{94} - 305P^4R^{26}Q^{94} + 1559545545R^{28}Q^{93} - \\
& 64P^3R^{27}Q^{93} + 243P^2R^{28}Q^{92} - 322PR^{29}Q^{91} - 310P^4R^{28}Q^{91} - 3223059688R^{30}Q^{90} + \\
& 92P^3R^{29}Q^{90} + 333P^2R^{30}Q^{89} - 56PR^{31}Q^{88} - 525P^4R^{30}Q^{88} + 6043237858R^{32}Q^{87} - 72P^3R^{31}Q^{87} - \\
& 39P^2R^{32}Q^{86} + 58PR^{33}Q^{85} - 135P^4R^{32}Q^{85} - 10309052167R^{34}Q^{84} - 160P^3R^{33}Q^{84} + \\
& 174P^2R^{34}Q^{83} + 82PR^{35}Q^{82} - 275P^4R^{34}Q^{82} + 16036303835R^{36}Q^{81} + 304P^3R^{35}Q^{81} - \\
& 174P^2R^{36}Q^{80} + 208PR^{37}Q^{79} - 385P^4R^{36}Q^{79} - 22788431334R^{38}Q^{78} - 140P^3R^{37}Q^{78} - \\
& 12P^2R^{38}Q^{77} + 76PR^{39}Q^{76} - 90P^4R^{38}Q^{76} + 29624961352R^{40}Q^{75} - 240P^3R^{39}Q^{75} + \\
& 324P^2R^{40}Q^{74} - 332PR^{41}Q^{73} - 490P^4R^{40}Q^{73} - 35267810282R^{42}Q^{72} + 92P^3R^{41}Q^{72} + \\
& 231P^2R^{42}Q^{71} - 360PR^{43}Q^{70} - 255P^4R^{42}Q^{70} + 38473975789R^{44}Q^{69} + 56P^3R^{43}Q^{69} - \\
& 27P^2R^{44}Q^{68} - 176PR^{45}Q^{67} - 310P^4R^{44}Q^{67} - 38473975160R^{46}Q^{66} + 152P^3R^{45}Q^{66} + \\
& 372P^2R^{46}Q^{65} + 2PR^{47}Q^{64} - 450P^4R^{46}Q^{64} + 35267810812R^{48}Q^{63} - 256P^3R^{47}Q^{63} + \\
& 99P^2R^{48}Q^{62} + 178PR^{49}Q^{61} - 55P^4R^{48}Q^{61} - 29624960959R^{50}Q^{60} + 272P^3R^{49}Q^{60} - \\
& 192P^2R^{50}Q^{59} + 158PR^{51}Q^{58} - 485P^4R^{50}Q^{58} + 22788431853R^{52}Q^{57} + 248P^3R^{51}Q^{57} - \\
& 150P^2R^{52}Q^{56} - 118PR^{53}Q^{55} - 245P^4R^{52}Q^{55} - 16036303457R^{54}Q^{54} + 196P^3R^{53}Q^{54} - \\
& 159P^2R^{54}Q^{53} + 288PR^{55}Q^{52} - 240P^4R^{54}Q^{52} + 10309052631R^{56}Q^{51} - 120P^3R^{55}Q^{51} - \\
& 210P^2R^{56}Q^{50} - 40PR^{57}Q^{49} - 115P^4R^{56}Q^{49} - 6043237160R^{58}Q^{48} + 28P^3R^{57}Q^{48} - \\
& 186P^2R^{58}Q^{47} - 28PR^{59}Q^{46} - 140P^4R^{58}Q^{46} + 3223060444R^{60}Q^{45} + 72P^3R^{59}Q^{45} - \\
& 453P^2R^{60}Q^{44} + 36PR^{61}Q^{43} - 95P^4R^{60}Q^{43} - 1559544937R^{62}Q^{42} + 64P^3R^{61}Q^{42} - 234P^2R^{62}Q^{41} + \\
& 256PR^{63}Q^{40} - 185P^4R^{62}Q^{40} + 682301284R^{64}Q^{39} + 176P^3R^{63}Q^{39} - 507P^2R^{64}Q^{38} + \\
& 72PR^{65}Q^{37} - 210P^4R^{64}Q^{37} - 268784785R^{66}Q^{36} + 84P^3R^{65}Q^{36} - 93P^2R^{66}Q^{35} - 70PR^{67}Q^{34} - \\
& 35P^4R^{66}Q^{34} + 94865874R^{68}Q^{33} - 192P^3R^{67}Q^{33} - 39P^2R^{68}Q^{32} - 164PR^{69}Q^{31} - 65P^4R^{68}Q^{31} - \\
& 29814563R^{70}Q^{30} - 432P^3R^{69}Q^{30} + 264P^2R^{70}Q^{29} - 4PR^{71}Q^{28} - 75P^4R^{70}Q^{28} + 8281954R^{72}Q^{27} - \\
& 232P^3R^{71}Q^{27} + 270P^2R^{72}Q^{26} + 64PR^{73}Q^{25} - 295P^4R^{72}Q^{25} - 2014105R^{74}Q^{24} - 140P^3R^{73}Q^{24} + \\
& 408P^2R^{74}Q^{23} - 226PR^{75}Q^{22} - 290P^4R^{74}Q^{22} + 424353R^{76}Q^{21} - 352P^3R^{75}Q^{21} + 21P^2R^{76}Q^{20} + \\
& 274PR^{77}Q^{19} - 60P^4R^{76}Q^{19} - 76010R^{78}Q^{18} + 156P^3R^{77}Q^{18} - 135P^2R^{78}Q^{17} + 52PR^{79}Q^{16} - \\
& 495P^4R^{78}Q^{16} + 11716R^{80}Q^{15} - 264P^3R^{79}Q^{15} + 216P^2R^{80}Q^{14} - 62PR^{81}Q^{13} - 25P^4R^{80}Q^{13} - \\
& 1124R^{82}Q^{12} - 128P^3R^{81}Q^{12} + 246P^2R^{82}Q^{11} + 130PR^{83}Q^{10} - 185P^4R^{82}Q^{10} + 181R^{84}Q^9 - \\
& 168P^3R^{83}Q^9 - 297P^2R^{84}Q^8 + 22PR^{85}Q^7 - 360P^4R^{84}Q^7 + 168R^{86}Q^6 + 364P^3R^{85}Q^6 + \\
& 243P^2R^{86}Q^5 + 58PR^{87}Q^4 - 415P^4R^{86}Q^4 + 141R^{88}Q^3 - 120P^3R^{87}Q^3 - 189P^2R^{88}Q^2 - \\
& 132PR^{89}Q - 145P^4R^{88}Q + R^{90} - 44P^3R^{89})
\end{aligned}$$

$$p_{14}(107t + 44) \equiv 0 \pmod{107}$$

[Identity unavailable at present]

$p_{26}(107t + 97) \equiv 0 \pmod{107}$  via  $Q^{107}(Q^3 - R^2)^{10}$

$$\begin{aligned}
& 12\vartheta(35PQ^{136} + 42P^3Q^{135} + 101RQ^{135} + 5P^5Q^{134} + 73P^2RQ^{134} + P^7Q^{133} + 72PR^2Q^{133} + \\
& 34P^4RQ^{133} + 67P^9Q^{132} + 22R^3Q^{132} + 17P^3R^2Q^{132} + 93P^6RQ^{132} + 4P^{11}Q^{131} + 45P^2R^3Q^{131} + \\
& 71P^5R^2Q^{131} + 25P^8RQ^{131} + 51PR^4Q^{130} + 47P^4R^3Q^{130} + 58P^7R^2Q^{130} + 15P^{10}RQ^{130} + \\
& 59R^5Q^{129} + 14P^3R^4Q^{129} + 67P^6R^3Q^{129} + 15P^9R^2Q^{129} + 83P^5R^4Q^{128} + 92P^8R^3Q^{128} + \\
& 103P^{11}R^2Q^{128} + 69PR^6Q^{127} + 99P^4R^5Q^{127} + 24P^7R^4Q^{127} + 82P^{10}R^3Q^{127} + 33R^7Q^{126} + \\
& 38P^3R^6Q^{126} + 57P^6R^5Q^{126} + 65P^9R^4Q^{126} + 29P^2R^7Q^{125} + 39P^5R^6Q^{125} + 15P^8R^5Q^{125} + \\
& 62P^{11}R^4Q^{125} + 63PR^8Q^{124} + 85P^7R^6Q^{124} + 34P^{10}R^5Q^{124} + 2R^9Q^{123} + P^3R^8Q^{123} + \\
& 8P^6R^7Q^{123} + 24P^9R^6Q^{123} + 74P^2R^9Q^{122} + 101P^5R^8Q^{122} + 18P^8R^7Q^{122} + 85P^{11}R^6Q^{122} + \\
& 87PR^{10}Q^{121} + 76P^4R^9Q^{121} + 29P^7R^8Q^{121} + 13P^{10}R^7Q^{121} + 80R^{11}Q^{120} + 87P^3R^{10}Q^{120} + \\
& 103P^6R^9Q^{120} + 11P^9R^8Q^{120} + 83P^2R^{11}Q^{119} + P^5R^{10}Q^{119} + 14P^8R^9Q^{119} + 30P^{11}R^8Q^{119} + \\
& 76PR^{12}Q^{118} + 100P^4R^{11}Q^{118} + 92P^7R^{10}Q^{118} + 68P^{10}R^9Q^{118} + 50R^{13}Q^{117} + 101P^3R^{12}Q^{117} + \\
& 94P^6R^{11}Q^{117} + 69P^9R^{10}Q^{117} + 22P^2R^{13}Q^{116} + 25P^5R^{12}Q^{116} + 33P^8R^{11}Q^{116} + 77P^{11}R^{10}Q^{116} + \\
& 35PR^{14}Q^{115} + 47P^4R^{13}Q^{115} + 15P^7R^{12}Q^{115} + 72P^{10}R^{11}Q^{115} + 56R^{15}Q^{114} + 31P^3R^{14}Q^{114} + \\
& 58P^6R^{13}Q^{114} + 11P^9R^{12}Q^{114} + 26P^5R^{14}Q^{113} + 46P^8R^{13}Q^{113} + 16P^{11}R^{12}Q^{113} + 75PR^{16}Q^{112} + \\
& 6P^4R^{15}Q^{112} + P^7R^{14}Q^{112} + 70P^{10}R^{13}Q^{112} + 38R^{17}Q^{111} + 13P^3R^{16}Q^{111} + 49P^6R^{15}Q^{111} + \\
& 89P^9R^{14}Q^{111} + 29P^2R^{17}Q^{110} + 31P^5R^{16}Q^{110} + 30P^8R^{15}Q^{110} + 9P^{11}R^{14}Q^{110} + 37PR^{18}Q^{109} + \\
& 77P^4R^{17}Q^{109} + 50P^7R^{16}Q^{109} + 84P^{10}R^{15}Q^{109} + R^{19}Q^{108} + 66P^3R^{18}Q^{108} + 104P^6R^{17}Q^{108} + \\
& 42P^9R^{16}Q^{108} + 36P^2R^{19}Q^{107} + 78P^5R^{18}Q^{107} + 22P^8R^{17}Q^{107} + 80P^{11}R^{16}Q^{107} + 96PR^{20}Q^{106} + \\
& 54P^4R^{19}Q^{106} + 51P^7R^{18}Q^{106} + 101P^{10}R^{17}Q^{106} + 51R^{21}Q^{105} + 95P^3R^{20}Q^{105} + 94P^6R^{19}Q^{105} + \\
& 65P^9R^{18}Q^{105} + 13P^2R^{21}Q^{104} + 68P^5R^{20}Q^{104} + 22P^8R^{19}Q^{104} + 101P^{11}R^{18}Q^{104} + 71PR^{22}Q^{103} + \\
& 56P^4R^{21}Q^{103} + 63P^7R^{20}Q^{103} + 101P^{10}R^{19}Q^{103} + 73R^{23}Q^{102} + 9P^3R^{22}Q^{102} + 66P^6R^{21}Q^{102} + \\
& 25P^9R^{20}Q^{102} + 103P^2R^{23}Q^{101} + 71P^5R^{22}Q^{101} + 66P^8R^{21}Q^{101} + 101P^{11}R^{20}Q^{101} + 96PR^{24}Q^{100} + \\
& 75P^4R^{23}Q^{100} + 11P^7R^{22}Q^{100} + 63P^{10}R^{21}Q^{100} + 79R^{25}Q^{99} + 97P^3R^{24}Q^{99} + 78P^6R^{23}Q^{99} + \\
& 7P^9R^{22}Q^{99} + 83P^2R^{25}Q^{98} + 10P^5R^{24}Q^{98} + 85P^8R^{23}Q^{98} + 31P^{11}R^{22}Q^{98} + 43PR^{26}Q^{97} + \\
& 6P^4R^{25}Q^{97} + 67P^7R^{24}Q^{97} + 36P^{10}R^{23}Q^{97} + 16R^{27}Q^{96} + 65P^3R^{26}Q^{96} + 56P^6R^{25}Q^{96} + \\
& 9P^9R^{24}Q^{96} + 80P^2R^{27}Q^{95} + 21P^5R^{26}Q^{95} + 78P^8R^{25}Q^{95} + 8P^{11}R^{24}Q^{95} + 46PR^{28}Q^{94} + \\
& 80P^4R^{27}Q^{94} + 4P^7R^{26}Q^{94} + 2P^{10}R^{25}Q^{94} + 21R^{29}Q^{93} + 78P^3R^{28}Q^{93} + 103P^6R^{27}Q^{93} + \\
& 19P^9R^{26}Q^{93} + 91P^5R^{28}Q^{92} + 3P^8R^{27}Q^{92} + 45P^{11}R^{26}Q^{92} + 33PR^{30}Q^{91} + 71P^4R^{29}Q^{91} + \\
& 29P^7R^{28}Q^{91} + 50P^{10}R^{27}Q^{91} + 70R^{31}Q^{90} + 75P^3R^{30}Q^{90} + 96P^6R^{29}Q^{90} + 55P^9R^{28}Q^{90} + \\
& 23P^2R^{31}Q^{89} + 40P^5R^{30}Q^{89} + 13P^8R^{29}Q^{89} + 10P^{11}R^{28}Q^{89} + 17PR^{32}Q^{88} + 68P^4R^{31}Q^{88} + \\
& 98P^7R^{30}Q^{88} + 27P^{10}R^{29}Q^{88} + 58R^{33}Q^{87} + 97P^3R^{32}Q^{87} + 35P^6R^{31}Q^{87} + 51P^9R^{30}Q^{87} + \\
& 98P^2R^{33}Q^{86} + 71P^5R^{32}Q^{86} + 11P^8R^{31}Q^{86} + 63P^{11}R^{30}Q^{86} + 62PR^{34}Q^{85} + 72P^4R^{33}Q^{85} + \\
& 32P^7R^{32}Q^{85} + 51P^{10}R^{31}Q^{85} + 86R^{35}Q^{84} + 42P^3R^{34}Q^{84} + 13P^6R^{33}Q^{84} + 94P^9R^{32}Q^{84} + \\
& 12P^2R^{35}Q^{83} + 3P^5R^{34}Q^{83} + 54P^8R^{33}Q^{83} + 83P^{11}R^{32}Q^{83} + 86PR^{36}Q^{82} + 21P^4R^{35}Q^{82} + \\
& 44P^7R^{34}Q^{82} + 39P^{10}R^{33}Q^{82} + 42R^{37}Q^{81} + 18P^3R^{36}Q^{81} + 41P^6R^{35}Q^{81} + 14P^9R^{34}Q^{81} + \\
& 4P^2R^{37}Q^{80} + 41P^5R^{36}Q^{80} + 29P^8R^{35}Q^{80} + 66P^{11}R^{34}Q^{80} + 20PR^{38}Q^{79} + 81P^4R^{37}Q^{79} + \\
& 100P^7R^{36}Q^{79} + 2P^{10}R^{35}Q^{79} + 89R^{39}Q^{78} + 52P^3R^{38}Q^{78} + 75P^6R^{37}Q^{78} + 66P^9R^{36}Q^{78} + \\
& 88P^2R^{39}Q^{77} + 103P^5R^{38}Q^{77} + 73P^8R^{37}Q^{77} + 34P^{11}R^{36}Q^{77} + 80PR^{40}Q^{76} + 26P^4R^{39}Q^{76} + \\
& 59P^7R^{38}Q^{76} + 78P^{10}R^{37}Q^{76} + 66R^{41}Q^{75} + 28P^3R^{40}Q^{75} + 44P^6R^{39}Q^{75} + 10P^9R^{38}Q^{75} + \\
& 18P^2R^{41}Q^{74} + 36P^5R^{40}Q^{74} + 28P^8R^{39}Q^{74} + 83P^{11}R^{38}Q^{74} + 99PR^{42}Q^{73} + 62P^4R^{41}Q^{73} + \\
& 59P^7R^{40}Q^{73} + 27P^{10}R^{39}Q^{73} + 56R^{43}Q^{72} + 47P^3R^{42}Q^{72} + 6P^6R^{41}Q^{72} + 75P^9R^{40}Q^{72} + \\
& 66P^2R^{43}Q^{71} + 6P^5R^{42}Q^{71} + 65P^8R^{41}Q^{71} + 15P^{11}R^{40}Q^{71} + 35PR^{44}Q^{70} + 39P^4R^{43}Q^{70} + \\
& 80P^7R^{42}Q^{70} + 24P^{10}R^{41}Q^{70} + 19R^{45}Q^{69} + 89P^3R^{44}Q^{69} + 85P^6R^{43}Q^{69} + 2P^9R^{42}Q^{69} + \\
& 47P^2R^{45}Q^{68} + 96P^5R^{44}Q^{68} + 98P^8R^{43}Q^{68} + 80P^{11}R^{42}Q^{68} + 25PR^{46}Q^{67} + 69P^4R^{45}Q^{67} + \\
& 52P^7R^{44}Q^{67} + 90P^{10}R^{43}Q^{67} + 72R^{47}Q^{66} + 29P^3R^{46}Q^{66} + 74P^6R^{45}Q^{66} + 71P^9R^{44}Q^{66} + \\
& 52P^2R^{47}Q^{65} + 23P^5R^{46}Q^{65} + 15P^8R^{45}Q^{65} + 16P^{11}R^{44}Q^{65} + 46PR^{48}Q^{64} + 2P^4R^{47}Q^{64} + \\
& 83P^7R^{46}Q^{64} + 54P^{10}R^{45}Q^{64} + 32R^{49}Q^{63} + 30P^3R^{48}Q^{63} + 98P^6R^{47}Q^{63} + 78P^9R^{46}Q^{63} +
\end{aligned}$$

$$\begin{aligned}
& 63P^2R^{49}Q^{62} + 30P^5R^{48}Q^{62} + 104P^8R^{47}Q^{62} + 96P^{11}R^{46}Q^{62} + 15PR^{50}Q^{61} + 83P^4R^{49}Q^{61} + \\
& 9P^7R^{48}Q^{61} + 73P^{10}R^{47}Q^{61} + 25R^{51}Q^{60} + 38P^3R^{50}Q^{60} + 90P^6R^{49}Q^{60} + 96P^9R^{48}Q^{60} + \\
& 12P^2R^{51}Q^{59} + 67P^5R^{50}Q^{59} + 15P^8R^{49}Q^{59} + 74P^{11}R^{48}Q^{59} + 34PR^{52}Q^{58} + 4P^4R^{51}Q^{58} + \\
& 43P^7R^{50}Q^{58} + 13P^{10}R^{49}Q^{58} + 14R^{53}Q^{57} + 52P^3R^{52}Q^{57} + 28P^6R^{51}Q^{57} + 21P^9R^{50}Q^{57} + \\
& 98P^2R^{53}Q^{56} + P^5R^{52}Q^{56} + 16P^8R^{51}Q^{56} + 82P^{11}R^{50}Q^{56} + 103PR^{54}Q^{55} + 101P^4R^{53}Q^{55} + \\
& 49P^7R^{52}Q^{55} + 23P^{10}R^{51}Q^{55} + 50R^{55}Q^{54} + 95P^3R^{54}Q^{54} + 29P^6R^{53}Q^{54} + 41P^9R^{52}Q^{54} + \\
& 69P^2R^{55}Q^{53} + 103P^5R^{54}Q^{53} + 4P^8R^{53}Q^{53} + 41P^{11}R^{52}Q^{53} + 79PR^{56}Q^{52} + 55P^4R^{55}Q^{52} + \\
& 11P^7R^{54}Q^{52} + 62P^{10}R^{53}Q^{52} + 73R^{57}Q^{51} + 64P^3R^{56}Q^{51} + 18P^6R^{55}Q^{51} + 91P^9R^{54}Q^{51} + \\
& 86P^2R^{57}Q^{50} + 75P^5R^{56}Q^{50} + 105P^8R^{55}Q^{50} + 48P^{11}R^{54}Q^{50} + 33PR^{58}Q^{49} + 63P^4R^{57}Q^{49} + \\
& 40P^7R^{56}Q^{49} + 98P^{10}R^{55}Q^{49} + 73R^{59}Q^{48} + 47P^3R^{58}Q^{48} + 88P^6R^{57}Q^{48} + 52P^9R^{56}Q^{48} + \\
& 26P^2R^{59}Q^{47} + 91P^8R^{57}Q^{47} + 87P^{11}R^{56}Q^{47} + 29PR^{60}Q^{46} + 49P^4R^{59}Q^{46} + 16P^7R^{58}Q^{46} + \\
& 23P^{10}R^{57}Q^{46} + 104R^{61}Q^{45} + 22P^3R^{60}Q^{45} + 65P^6R^{59}Q^{45} + 40P^9R^{58}Q^{45} + 20P^2R^{61}Q^{44} + \\
& 18P^5R^{60}Q^{44} + 53P^8R^{59}Q^{44} + 45P^{11}R^{58}Q^{44} + 45PR^{62}Q^{43} + 75P^4R^{61}Q^{43} + 18P^7R^{60}Q^{43} + \\
& 44P^{10}R^{59}Q^{43} + 65R^{63}Q^{42} + 27P^3R^{62}Q^{42} + 82P^6R^{61}Q^{42} + 99P^9R^{60}Q^{42} + 78P^2R^{63}Q^{41} + \\
& 77P^5R^{62}Q^{41} + 86P^8R^{61}Q^{41} + 34P^{11}R^{60}Q^{41} + 10PR^{64}Q^{40} + 11P^4R^{63}Q^{40} + 87P^7R^{62}Q^{40} + \\
& 11P^{10}R^{61}Q^{40} + 68R^{65}Q^{39} + 93P^3R^{64}Q^{39} + 88P^6R^{63}Q^{39} + 88P^9R^{62}Q^{39} + 102P^2R^{65}Q^{38} + \\
& 3P^5R^{64}Q^{38} + 47P^8R^{63}Q^{38} + 86P^{11}R^{62}Q^{38} + 33PR^{66}Q^{37} + 75P^4R^{65}Q^{37} + 62P^7R^{64}Q^{37} + \\
& 72P^{10}R^{63}Q^{37} + 43R^{67}Q^{36} + 93P^3R^{66}Q^{36} + 85P^6R^{65}Q^{36} + 99P^9R^{64}Q^{36} + 47P^2R^{67}Q^{35} + \\
& 84P^5R^{66}Q^{35} + 5P^8R^{65}Q^{35} + 62P^{11}R^{64}Q^{35} + 38PR^{68}Q^{34} + 77P^4R^{67}Q^{34} + 44P^7R^{66}Q^{34} + \\
& 51P^{10}R^{65}Q^{34} + 17R^{69}Q^{33} + 70P^3R^{68}Q^{33} + 27P^6R^{67}Q^{33} + 43P^9R^{66}Q^{33} + 91P^2R^{69}Q^{32} + \\
& 93P^5R^{68}Q^{32} + 105P^8R^{67}Q^{32} + 59P^{11}R^{66}Q^{32} + 97PR^{70}Q^{31} + 61P^4R^{69}Q^{31} + 83P^7R^{68}Q^{31} + \\
& 95P^{10}R^{67}Q^{31} + 47R^{71}Q^{30} + 80P^3R^{70}Q^{30} + 4P^6R^{69}Q^{30} + 32P^9R^{68}Q^{30} + 2P^2R^{71}Q^{29} + \\
& 60P^5R^{70}Q^{29} + 55P^8R^{69}Q^{29} + 100P^{11}R^{68}Q^{29} + 37PR^{72}Q^{28} + 81P^4R^{71}Q^{28} + 55P^7R^{70}Q^{28} + \\
& 90P^{10}R^{69}Q^{28} + 85R^{73}Q^{27} + 38P^3R^{72}Q^{27} + 92P^6R^{71}Q^{27} + 77P^9R^{70}Q^{27} + 88P^2R^{73}Q^{26} + \\
& 56P^5R^{72}Q^{26} + 56P^8R^{71}Q^{26} + 21P^{11}R^{70}Q^{26} + 76PR^{74}Q^{25} + 101P^4R^{73}Q^{25} + 68P^7R^{72}Q^{25} + \\
& 103P^{10}R^{71}Q^{25} + 17R^{75}Q^{24} + 62P^3R^{74}Q^{24} + 41P^6R^{73}Q^{24} + 6P^9R^{72}Q^{24} + 77P^2R^{75}Q^{23} + \\
& 46P^5R^{74}Q^{23} + 60P^8R^{73}Q^{23} + 95P^{11}R^{72}Q^{23} + 24PR^{76}Q^{22} + 88P^4R^{75}Q^{22} + 46P^7R^{74}Q^{22} + \\
& 33P^{10}R^{73}Q^{22} + 52R^{77}Q^{21} + 48P^3R^{76}Q^{21} + 33P^6R^{75}Q^{21} + 75P^9R^{74}Q^{21} + 84P^2R^{77}Q^{20} + \\
& 9P^5R^{76}Q^{20} + 4P^8R^{75}Q^{20} + 51P^{11}R^{74}Q^{20} + 75PR^{78}Q^{19} + 56P^4R^{77}Q^{19} + 78P^7R^{76}Q^{19} + \\
& 39P^{10}R^{75}Q^{19} + 36R^{79}Q^{18} + 73P^3R^{78}Q^{18} + 11P^6R^{77}Q^{18} + 29P^9R^{76}Q^{18} + 12P^2R^{79}Q^{17} + \\
& 49P^5R^{78}Q^{17} + 33P^8R^{77}Q^{17} + 20P^{11}R^{76}Q^{17} + 21PR^{80}Q^{16} + 80P^4R^{79}Q^{16} + 90P^7R^{78}Q^{16} + \\
& 78P^{10}R^{77}Q^{16} + 97R^{81}Q^{15} + 43P^3R^{80}Q^{15} + 22P^6R^{79}Q^{15} + 3P^9R^{78}Q^{15} + 15P^2R^{81}Q^{14} + \\
& 10P^5R^{80}Q^{14} + 105P^8R^{79}Q^{14} + 91P^{11}R^{78}Q^{14} + 37PR^{82}Q^{13} + 57P^4R^{81}Q^{13} + 11P^7R^{80}Q^{13} + \\
& 35P^{10}R^{79}Q^{13} + 86R^{83}Q^{12} + 97P^3R^{82}Q^{12} + 12P^6R^{81}Q^{12} + 72P^9R^{80}Q^{12} + 9P^2R^{83}Q^{11} + \\
& 95P^5R^{82}Q^{11} + 69P^8R^{81}Q^{11} + 57P^{11}R^{80}Q^{11} + 77PR^{84}Q^{10} + 98P^4R^{83}Q^{10} + 77P^7R^{82}Q^{10} + \\
& 47P^{10}R^{81}Q^{10} + 104R^{85}Q^9 + 105P^3R^{84}Q^9 + 61P^6R^{83}Q^9 + 84P^9R^{82}Q^9 + 49P^2R^{85}Q^8 + \\
& 90P^5R^{84}Q^8 + 45P^8R^{83}Q^8 + 62PR^{86}Q^7 + 77P^4R^{85}Q^7 + 39P^7R^{84}Q^7 + 87R^{87}Q^6 + 23P^3R^{86}Q^6 + \\
& 90P^6R^{85}Q^6 + 70P^2R^{87}Q^5 + 39P^5R^{86}Q^5 + 9PR^{88}Q^4 + 35P^4R^{87}Q^4 + 64R^{89}Q^3 + 70P^3R^{88}Q^3 + \\
& 22P^2R^{89}Q^2 + 39PR^{90}Q + 92R^{91}) \\
& = Q^{107}(Q^3 - R^2)^{10} - 107(6Q^{137} - 173P^2Q^{136} - 211P^4Q^{135} - 328PRQ^{135} - \\
& 20P^6Q^{134} + 514R^2Q^{134} - 156P^3RQ^{134} + 2P^8Q^{133} + 7P^2R^2Q^{133} - 134P^5RQ^{133} - \\
& 335P^{10}Q^{132} + 258PR^3Q^{132} + 94P^4R^2Q^{132} - 456P^7RQ^{132} - 20P^{12}Q^{131} + 126R^4Q^{131} - \\
& 140P^3R^3Q^{131} + 115P^6R^2Q^{131} + 208P^9RQ^{131} - 39P^2R^4Q^{130} + 132P^5R^3Q^{130} - 153P^8R^2Q^{130} - \\
& 44P^{11}RQ^{130} - 30PR^5Q^{129} + 189P^4R^4Q^{129} - 44P^7R^3Q^{129} + 22P^{10}R^2Q^{129} + 297R^6Q^{128} + \\
& 84P^3R^5Q^{128} - 79P^6R^4Q^{128} - 368P^9R^3Q^{128} - 515P^{12}R^2Q^{128} - 339P^2R^6Q^{127} - 88P^5R^5Q^{127} + \\
& 329P^8R^4Q^{127} + 96P^{11}R^3Q^{127} + 188PR^7Q^{126} + 279P^4R^6Q^{126} - 144P^7R^5Q^{126} + 79P^{10}R^4Q^{126} + \\
& 159R^8Q^{125} + 32P^3R^7Q^{125} + 80P^6R^6Q^{125} + 242P^9R^5Q^{125} - 310P^{12}R^4Q^{125} - 148P^2R^8Q^{124} + \\
& 228P^5R^7Q^{124} - 349P^8R^6Q^{124} + 148P^{11}R^5Q^{124} + 332PR^9Q^{123} + 38P^4R^8Q^{123} + 368P^7R^7Q^{123} + \\
& 51P^{10}R^6Q^{123} + 57R^{10}Q^{122} - 320P^3R^9Q^{122} - 420P^6R^8Q^{122} + 26P^9R^7Q^{122} - 425P^{12}R^6Q^{122} -
\end{aligned}$$

$$\begin{aligned}
& 52P^2R^{10}Q^{121} + 82P^5R^9Q^{121} - 56P^8R^8Q^{121} + 336P^{11}R^7Q^{121} + 38PR^{11}Q^{120} - 36P^4R^{10}Q^{120} - \\
& 336P^7R^9Q^{120} + 41P^{10}R^8Q^{120} + 398R^{12}Q^{119} + 40P^3R^{11}Q^{119} + 521P^6R^{10}Q^{119} + 24P^9R^9Q^{119} - \\
& 150P^{12}R^8Q^{119} + P^2R^{12}Q^{118} - 480P^5R^{11}Q^{118} - 375P^8R^{10}Q^{118} - 164P^{11}R^9Q^{118} + 108PR^{13}Q^{117} - \\
& 36P^4R^{12}Q^{117} - 56P^7R^{11}Q^{117} + 6P^{10}R^{10}Q^{117} + 265R^{14}Q^{116} + 356P^3R^{13}Q^{116} + 328P^6R^{12}Q^{116} + \\
& 150P^9R^{11}Q^{116} - 385P^{12}R^{10}Q^{116} - 82P^2R^{14}Q^{115} - 106P^5R^{13}Q^{115} + 102P^8R^{12}Q^{115} - \\
& 16P^{11}R^{11}Q^{115} - 68PR^{15}Q^{114} + 51P^4R^{14}Q^{114} - 224P^7R^{13}Q^{114} + 307P^{10}R^{12}Q^{114} + 276R^{16}Q^{113} + \\
& 144P^3R^{15}Q^{113} + 157P^6R^{14}Q^{113} - 108P^9R^{13}Q^{113} - 80P^{12}R^{12}Q^{113} - 354P^2R^{16}Q^{112} + \\
& 110P^5R^{15}Q^{112} + 222P^8R^{14}Q^{112} - 276P^{11}R^{13}Q^{112} + 158PR^{17}Q^{111} + 34P^4R^{16}Q^{111} - \\
& 196P^7R^{15}Q^{111} - 82P^{10}R^{14}Q^{111} + 159R^{18}Q^{110} - 24P^3R^{17}Q^{110} + 149P^6R^{16}Q^{110} + 264P^9R^{15}Q^{110} - \\
& 45P^{12}R^{14}Q^{110} - 29P^2R^{18}Q^{109} - 178P^5R^{17}Q^{109} - 104P^8R^{16}Q^{109} - 312P^{11}R^{15}Q^{109} + \\
& 254PR^{19}Q^{108} + 40P^4R^{18}Q^{108} - 268P^7R^{17}Q^{108} + 236P^{10}R^{16}Q^{108} + 65R^{20}Q^{107} + 192P^3R^{19}Q^{107} + \\
& 129P^6R^{18}Q^{107} + 134P^9R^{17}Q^{107} - 400P^{12}R^{16}Q^{107} - 327P^2R^{20}Q^{106} + 120P^5R^{19}Q^{106} - \\
& 140P^8R^{18}Q^{106} - 84P^{11}R^{17}Q^{106} + 208PR^{21}Q^{105} - 199P^4R^{20}Q^{105} - 200P^7R^{19}Q^{105} + \\
& 192P^{10}R^{18}Q^{105} + 295R^{22}Q^{104} + 320P^3R^{21}Q^{104} + 107P^6R^{20}Q^{104} + 182P^9R^{19}Q^{104} - \\
& 505P^{12}R^{18}Q^{104} - 178P^2R^{22}Q^{103} + 72P^5R^{21}Q^{103} - 152P^8R^{20}Q^{103} + 32PR^{23}Q^{102} + \\
& 270P^4R^{22}Q^{102} - 72P^7R^{21}Q^{102} + 348P^{10}R^{20}Q^{102} + 390R^{24}Q^{101} - 356P^3R^{23}Q^{101} - 6P^6R^{22}Q^{101} - \\
& 222P^9R^{21}Q^{101} - 505P^{12}R^{20}Q^{101} + 19P^2R^{24}Q^{100} - 94P^5R^{23}Q^{100} + 304P^8R^{22}Q^{100} + \\
& 104P^{11}R^{21}Q^{100} + 20PR^{25}Q^{99} - 203P^4R^{24}Q^{99} - 256P^7R^{23}Q^{99} + 250P^{10}R^{22}Q^{99} + 317R^{26}Q^{98} + \\
& 32P^3R^{25}Q^{98} + 321P^6R^{24}Q^{98} - 386P^9R^{23}Q^{98} - 155P^{12}R^{22}Q^{98} + 208P^2R^{26}Q^{97} + 40P^5R^{25}Q^{97} + \\
& 84P^8R^{24}Q^{97} - 56P^{11}R^{23}Q^{97} + 148PR^{27}Q^{96} - 186P^4R^{26}Q^{96} - 28P^7R^{25}Q^{96} + 89P^{10}R^{24}Q^{96} + \\
& 92R^{28}Q^{95} - 48P^3R^{27}Q^{95} + 251P^6R^{26}Q^{95} - 332P^9R^{25}Q^{95} - 40P^{12}R^{24}Q^{95} + 52P^2R^{28}Q^{94} - \\
& 182P^5R^{27}Q^{94} + 263P^8R^{26}Q^{94} + 84P^{11}R^{25}Q^{94} + 110PR^{29}Q^{93} + 5P^4R^{28}Q^{93} - 460P^7R^{27}Q^{93} - \\
& 8P^{10}R^{26}Q^{93} + 195R^{30}Q^{92} + 400P^3R^{29}Q^{92} + 56P^6R^{28}Q^{92} + 142P^9R^{27}Q^{92} - 225P^{12}R^{26}Q^{92} - \\
& 126P^2R^{30}Q^{91} + 26P^5R^{29}Q^{91} - 110P^8R^{28}Q^{91} - 80P^{11}R^{27}Q^{91} - 214PR^{31}Q^{90} - 19P^4R^{30}Q^{90} - \\
& 220P^7R^{29}Q^{90} - 61P^{10}R^{28}Q^{90} + 343R^{32}Q^{89} + 312P^3R^{31}Q^{89} + 188P^6R^{30}Q^{89} + 208P^9R^{29}Q^{89} - \\
& 50P^{12}R^{28}Q^{89} + 174P^2R^{32}Q^{88} - 82P^5R^{31}Q^{88} - 427P^8R^{30}Q^{88} + 4P^{11}R^{29}Q^{88} - 120PR^{33}Q^{87} - \\
& 132P^4R^{32}Q^{87} + 204P^7R^{31}Q^{87} - 72P^{10}R^{30}Q^{87} + 358R^{34}Q^{86} - 100P^3R^{33}Q^{86} - 219P^6R^{32}Q^{86} + \\
& 284P^9R^{31}Q^{86} - 315P^{12}R^{30}Q^{86} + 24P^2R^{34}Q^{85} - 130P^5R^{33}Q^{85} - 18P^8R^{32}Q^{85} + 96P^{11}R^{31}Q^{85} - \\
& 68PR^{35}Q^{84} + 57P^4R^{34}Q^{84} + 124P^7R^{33}Q^{84} - 229P^{10}R^{32}Q^{84} + 358R^{36}Q^{83} + 108P^3R^{35}Q^{83} + \\
& 109P^6R^{34}Q^{83} + 54P^9R^{33}Q^{83} - 415P^{12}R^{32}Q^{83} - 392P^2R^{36}Q^{82} - 12P^5R^{35}Q^{82} + 4P^8R^{34}Q^{82} + \\
& 188P^{11}R^{33}Q^{82} + 92PR^{37}Q^{81} + 143P^4R^{36}Q^{81} + 132P^7R^{35}Q^{81} + 60P^{10}R^{34}Q^{81} + 322R^{38}Q^{80} + \\
& 148P^3R^{37}Q^{80} + 79P^6R^{36}Q^{80} + 30P^9R^{35}Q^{80} - 330P^{12}R^{34}Q^{80} + 104P^2R^{38}Q^{79} - 64P^5R^{37}Q^{79} - \\
& 260P^8R^{36}Q^{79} + 256P^{11}R^{35}Q^{79} - 214PR^{39}Q^{78} + 37P^4R^{38}Q^{78} + 48P^7R^{37}Q^{78} - 160P^{10}R^{36}Q^{78} + \\
& 412R^{40}Q^{77} - 232P^3R^{39}Q^{77} - 202P^6R^{38}Q^{77} - 146P^9R^{37}Q^{77} - 170P^{12}R^{36}Q^{77} - 112P^2R^{40}Q^{76} + \\
& 248P^5R^{39}Q^{76} - 25P^8R^{38}Q^{76} - 116P^{11}R^{37}Q^{76} + 124PR^{41}Q^{75} + 76P^4R^{40}Q^{75} + 80P^7R^{39}Q^{75} + \\
& 239P^{10}R^{38}Q^{75} + 321R^{42}Q^{74} + 100P^3R^{41}Q^{74} - 41P^6R^{40}Q^{74} + 58P^9R^{39}Q^{74} - 415P^{12}R^{38}Q^{74} - \\
& 294P^2R^{42}Q^{73} - 200P^5R^{41}Q^{73} - 64P^8R^{40}Q^{73} + 128P^{11}R^{39}Q^{73} + 72PR^{43}Q^{72} + 25P^4R^{42}Q^{72} + \\
& 324P^7R^{41}Q^{72} - 246P^{10}R^{40}Q^{72} + 199R^{44}Q^{71} + 12P^3R^{43}Q^{71} + 196P^6R^{42}Q^{71} - 118P^9R^{41}Q^{71} - \\
& 75P^{12}R^{40}Q^{71} + 118P^2R^{44}Q^{70} + 60P^5R^{43}Q^{70} + 6P^8R^{42}Q^{70} + 108P^{11}R^{41}Q^{70} + 60PR^{45}Q^{69} - \\
& 171P^4R^{44}Q^{69} - 84P^7R^{43}Q^{69} + 278P^{10}R^{42}Q^{69} + 239R^{46}Q^{68} + 68P^3R^{45}Q^{68} - 76P^6R^{44}Q^{68} - \\
& 304P^9R^{43}Q^{68} - 400P^{12}R^{42}Q^{68} + 130P^2R^{46}Q^{67} - 42P^5R^{45}Q^{67} + 31P^8R^{44}Q^{67} - 208P^{11}R^{43}Q^{67} - \\
& 180PR^{47}Q^{66} + 32P^4R^{46}Q^{66} - 28P^7R^{45}Q^{66} + 7P^{10}R^{44}Q^{66} + 266R^{48}Q^{65} - 112P^3R^{47}Q^{65} + \\
& 330P^6R^{46}Q^{65} + 306P^9R^{45}Q^{65} - 80P^{12}R^{44}Q^{65} + 66P^2R^{48}Q^{64} + 132P^5R^{47}Q^{64} - 101P^8R^{46}Q^{64} + \\
& 16P^{11}R^{45}Q^{64} - 10PR^{49}Q^{63} + 82P^4R^{48}Q^{63} - 264P^7R^{47}Q^{63} - 60P^{10}R^{46}Q^{63} + 147R^{50}Q^{62} - \\
& 140P^3R^{49}Q^{62} + 327P^6R^{48}Q^{62} - 74P^9R^{47}Q^{62} - 480P^{12}R^{46}Q^{62} + 105P^2R^{50}Q^{61} - 158P^5R^{49}Q^{61} + \\
& 245P^8R^{48}Q^{61} + 56P^{11}R^{47}Q^{61} + 6PR^{51}Q^{60} + 11P^4R^{50}Q^{60} - 312P^7R^{49}Q^{60} - 272P^{10}R^{48}Q^{60} + \\
& 98R^{52}Q^{59} + 176P^3R^{51}Q^{59} - 54P^6R^{50}Q^{59} + 200P^9R^{49}Q^{59} - 370P^{12}R^{48}Q^{59} + 146P^2R^{52}Q^{58} + \\
& 132P^5R^{51}Q^{58} - 136P^8R^{50}Q^{58} + 328P^{11}R^{49}Q^{58} + 316PR^{53}Q^{57} + 45P^4R^{52}Q^{57} + 96P^7R^{51}Q^{57} - \\
& 3P^{10}R^{50}Q^{57} + 185R^{54}Q^{56} - 96P^3R^{53}Q^{56} + 144P^6R^{52}Q^{56} + 86P^9R^{51}Q^{56} - 410P^{12}R^{50}Q^{56} -
\end{aligned}$$

$$\begin{aligned}
& 104P^2R^{54}Q^{55} - 196P^5R^{53}Q^{55} - 198P^8R^{52}Q^{55} + 176P^{11}R^{51}Q^{55} + 206PR^{55}Q^{54} - 100P^4R^{54}Q^{54} - \\
& 12P^7R^{53}Q^{54} + 30P^{10}R^{52}Q^{54} + 335R^{56}Q^{53} + 44P^3R^{55}Q^{53} - 406P^6R^{54}Q^{53} + 344P^9R^{53}Q^{53} - \\
& 205P^{12}R^{52}Q^{53} + 11P^2R^{56}Q^{52} + 162P^5R^{55}Q^{52} + 284P^8R^{54}Q^{52} - 84P^{11}R^{53}Q^{52} - 110PR^{57}Q^{51} - \\
& 13P^4R^{56}Q^{51} + 64P^7R^{55}Q^{51} - 29P^{10}R^{54}Q^{51} + 381R^{58}Q^{50} - 160P^3R^{57}Q^{50} - 61P^6R^{56}Q^{50} - \\
& 182P^9R^{55}Q^{50} - 240P^{12}R^{54}Q^{50} + 80P^2R^{58}Q^{49} - 174P^5R^{57}Q^{49} + 290P^8R^{56}Q^{49} - 128P^{11}R^{55}Q^{49} - \\
& 214PR^{59}Q^{48} + 39P^4R^{58}Q^{48} - 312P^7R^{57}Q^{48} + P^{10}R^{56}Q^{48} + 487R^{60}Q^{47} + 28P^3R^{59}Q^{47} + \\
& 374P^6R^{58}Q^{47} - 232P^9R^{57}Q^{47} - 435P^{12}R^{56}Q^{47} - 33P^2R^{60}Q^{46} - 184P^5R^{59}Q^{46} + 258P^8R^{58}Q^{46} + \\
& 184P^{11}R^{57}Q^{46} - 324PR^{61}Q^{45} + 230P^4R^{60}Q^{45} - 236P^7R^{59}Q^{45} - 11P^{10}R^{58}Q^{45} + 405R^{62}Q^{44} + \\
& 32P^3R^{61}Q^{44} + 300P^6R^{60}Q^{44} + 138P^9R^{59}Q^{44} - 225P^{12}R^{58}Q^{44} + 80P^2R^{62}Q^{43} - 78P^5R^{61}Q^{43} + \\
& 299P^8R^{60}Q^{43} - 32P^{11}R^{59}Q^{43} - 222PR^{63}Q^{42} + 26P^4R^{62}Q^{42} - 76P^7R^{61}Q^{42} - 385P^{10}R^{60}Q^{42} + \\
& 350R^{64}Q^{41} - 20P^3R^{63}Q^{41} + 56P^6R^{62}Q^{41} + 30P^9R^{61}Q^{41} - 170P^{12}R^{60}Q^{41} + 443P^2R^{64}Q^{40} + \\
& 78P^5R^{63}Q^{40} - 133P^8R^{62}Q^{40} + 296P^{11}R^{61}Q^{40} - 208PR^{65}Q^{39} - 182P^4R^{64}Q^{39} - 88P^7R^{63}Q^{39} - \\
& 162P^{10}R^{62}Q^{39} + 261R^{66}Q^{38} - 36P^3R^{65}Q^{38} + 427P^6R^{64}Q^{38} + 254P^9R^{63}Q^{38} - 430P^{12}R^{62}Q^{38} + \\
& 156P^2R^{66}Q^{37} - 60P^5R^{65}Q^{37} - 219P^8R^{64}Q^{37} - 16P^{11}R^{63}Q^{37} - 28PR^{67}Q^{36} - 75P^4R^{66}Q^{36} - \\
& 180P^7R^{65}Q^{36} - 205P^{10}R^{64}Q^{36} + 124R^{68}Q^{35} + 156P^3R^{67}Q^{35} - 206P^6R^{66}Q^{35} + 272P^9R^{65}Q^{35} - \\
& 310P^{12}R^{64}Q^{35} + 222P^2R^{68}Q^{34} + 76P^5R^{67}Q^{34} + 183P^8R^{66}Q^{34} + 44P^{11}R^{65}Q^{34} + 344PR^{69}Q^{33} - \\
& 17P^4R^{68}Q^{33} + 244P^7R^{67}Q^{33} + 212P^{10}R^{66}Q^{33} + 209R^{70}Q^{32} - 60P^3R^{69}Q^{32} - 416P^6R^{68}Q^{32} - \\
& 344P^9R^{67}Q^{32} - 295P^{12}R^{66}Q^{32} - 375P^2R^{70}Q^{31} + 38P^5R^{69}Q^{31} - 77P^8R^{68}Q^{31} - 24P^{11}R^{67}Q^{31} + \\
& 22PR^{71}Q^{30} - 10P^4R^{70}Q^{30} + 296P^7R^{69}Q^{30} + 308P^{10}R^{68}Q^{30} + 401R^{72}Q^{29} + 236P^3R^{71}Q^{29} + \\
& 71P^6R^{70}Q^{29} + 70P^9R^{69}Q^{29} - 500P^{12}R^{68}Q^{29} + 175P^2R^{72}Q^{28} - 114P^5R^{71}Q^{28} + 12P^8R^{70}Q^{28} - \\
& 260P^{11}R^{69}Q^{28} - 78PR^{73}Q^{27} + 308P^4R^{72}Q^{27} - 128P^7R^{71}Q^{27} + 120P^{10}R^{70}Q^{27} + 158R^{74}Q^{26} - \\
& 148P^3R^{73}Q^{26} - 18P^6R^{72}Q^{26} - 170P^9R^{71}Q^{26} - 105P^{12}R^{70}Q^{26} + 24P^2R^{74}Q^{25} - 264P^5R^{73}Q^{25} - \\
& 42P^8R^{72}Q^{25} - 112P^{11}R^{71}Q^{25} + 88PR^{75}Q^{24} + 152P^4R^{74}Q^{24} + 52P^7R^{73}Q^{24} + 211P^{10}R^{72}Q^{24} + \\
& 240R^{76}Q^{23} - 128P^3R^{75}Q^{23} - 54P^6R^{74}Q^{23} + 18P^9R^{73}Q^{23} - 475P^{12}R^{72}Q^{23} + 308P^2R^{76}Q^{22} - \\
& 366P^5R^{75}Q^{22} - 157P^8R^{74}Q^{22} + 128P^{11}R^{73}Q^{22} + 84PR^{77}Q^{21} + 71P^4R^{76}Q^{21} + 204P^7R^{75}Q^{21} - \\
& 180P^{10}R^{74}Q^{21} + 201R^{78}Q^{20} - 68P^3R^{77}Q^{20} + 33P^6R^{76}Q^{20} + 166P^9R^{75}Q^{20} - 255P^{12}R^{74}Q^{20} - \\
& 264P^2R^{78}Q^{19} - 62P^5R^{77}Q^{19} - 245P^8R^{76}Q^{19} - 72P^{11}R^{75}Q^{19} - 36PR^{79}Q^{18} + 26P^4R^{78}Q^{18} + \\
& 396P^7R^{77}Q^{18} + 221P^{10}R^{76}Q^{18} + 465R^{80}Q^{17} + 184P^3R^{79}Q^{17} - 137P^6R^{78}Q^{17} - 126P^9R^{77}Q^{17} - \\
& 100P^{12}R^{76}Q^{17} - 30P^2R^{80}Q^{16} - 328P^5R^{79}Q^{16} + 33P^8R^{78}Q^{16} + 20P^{11}R^{77}Q^{16} - 312PR^{81}Q^{15} + \\
& 89P^4R^{80}Q^{15} + 196P^{10}R^{78}Q^{15} + 455R^{82}Q^{14} + 396P^3R^{81}Q^{14} + 17P^6R^{80}Q^{14} - 200P^9R^{79}Q^{14} - \\
& 455P^{12}R^{78}Q^{14} - 136P^2R^{82}Q^{13} + 154P^5R^{81}Q^{13} + 319P^8R^{80}Q^{13} + 128P^{11}R^{79}Q^{13} - 58PR^{83}Q^{12} - \\
& 4P^4R^{82}Q^{12} + 304P^7R^{81}Q^{12} - 125P^{10}R^{80}Q^{12} + 535R^{84}Q^{11} + 496P^3R^{83}Q^{11} - 186P^6R^{82}Q^{11} + \\
& 76P^9R^{81}Q^{11} - 285P^{12}R^{80}Q^{11} - 152P^2R^{84}Q^{10} - 30P^5R^{83}Q^{10} - 143P^8R^{82}Q^{10} - 212P^{11}R^{81}Q^{10} - \\
& 202PR^{85}Q^9 - 125P^4R^{84}Q^9 - 92P^7R^{83}Q^9 - 404P^{10}R^{82}Q^9 + 460R^{86}Q^8 - 100P^3R^{85}Q^8 - \\
& 3P^6R^{84}Q^8 - 198P^9R^{83}Q^8 + 41P^2R^{86}Q^7 - 170P^5R^{85}Q^7 - 183P^8R^{84}Q^7 - 382PR^{87}Q^6 + \\
& 76P^4R^{86}Q^6 - 444P^7R^{85}Q^6 + 339R^{88}Q^5 - 4P^3R^{87}Q^5 - 177P^6R^{86}Q^5 + 79P^2R^{88}Q^4 - \\
& 170P^5R^{87}Q^4 - 128PR^{89}Q^3 - 350P^4R^{88}Q^3 + 477R^{90}Q^2 - 104P^3R^{89}Q^2 - 197P^2R^{90}Q - 468PR^{91}
\end{aligned}$$

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$$p_{26}(179t + 163) \equiv 0 \pmod{179}$$

$$\begin{aligned}
& 12\vartheta(69PQ^{47} + 71P^3Q^{46} + 48RQ^{46} + 81P^5Q^{45} + 169P^2RQ^{45} + 32P^7Q^{44} + 158PR^2Q^{44} + \\
& 57P^4RQ^{44} + 122P^9Q^{43} + 118R^3Q^{43} + 108P^3R^2Q^{43} + 163P^6RQ^{43} + 14P^{11}Q^{42} + 130P^2R^3Q^{42} + \\
& 124P^5R^2Q^{42} + 77P^8RQ^{42} + 63PR^4Q^{41} + 33P^4R^3Q^{41} + 129P^7R^2Q^{41} + 15P^{10}RQ^{41} + 99R^5Q^{40} + \\
& 30P^3R^4Q^{40} + 154P^6R^3Q^{40} + 63P^9R^2Q^{40} + 6P^2R^5Q^{39} + 110P^5R^4Q^{39} + 84P^8R^3Q^{39} + \\
& 29P^{11}R^2Q^{39} + 86PR^6Q^{38} + 36P^4R^5Q^{38} + 122P^7R^4Q^{38} + 141P^{10}R^3Q^{38} + 120R^7Q^{37} + \\
& 73P^3R^6Q^{37} + 103P^6R^5Q^{37} + 24P^9R^4Q^{37} + 91P^2R^7Q^{36} + 80P^5R^6Q^{36} + 157P^8R^5Q^{36} + \\
& 153P^{11}R^4Q^{36} + 87PR^8Q^{35} + 19P^4R^7Q^{35} + 56P^7R^6Q^{35} + 144P^{10}R^5Q^{35} + 17R^9Q^{34} + \\
& 85P^3R^8Q^{34} + 125P^6R^7Q^{34} + 128P^9R^6Q^{34} + 77P^2R^9Q^{33} + 176P^5R^8Q^{33} + 113P^8R^7Q^{33} +
\end{aligned}$$

$$\begin{aligned}
& 108P^{11}R^6Q^{33} + 75PR^{10}Q^{32} + 73P^4R^9Q^{32} + 118P^7R^8Q^{32} + 103P^{10}R^7Q^{32} + 49R^{11}Q^{31} + \\
& 175P^3R^{10}Q^{31} + 127P^6R^9Q^{31} + 104P^9R^8Q^{31} + 4P^2R^{11}Q^{30} + 77P^5R^{10}Q^{30} + 166P^8R^9Q^{30} + \\
& 134P^{11}R^8Q^{30} + 150PR^{12}Q^{29} + 164P^4R^{11}Q^{29} + 44P^7R^{10}Q^{29} + 44P^{10}R^9Q^{29} + 47R^{13}Q^{28} + \\
& 48P^3R^{12}Q^{28} + 138P^6R^{11}Q^{28} + 150P^9R^{10}Q^{28} + 25P^2R^{13}Q^{27} + 75P^5R^{12}Q^{27} + 174P^8R^{11}Q^{27} + \\
& 43P^{11}R^{10}Q^{27} + 52PR^{14}Q^{26} + 167P^4R^{13}Q^{26} + 163P^7R^{12}Q^{26} + 156P^{10}R^{11}Q^{26} + 76R^{15}Q^{25} + \\
& 163P^3R^{14}Q^{25} + 11P^6R^{13}Q^{25} + 155P^9R^{12}Q^{25} + 32P^2R^{15}Q^{24} + 68P^5R^{14}Q^{24} + 41P^8R^{13}Q^{24} + \\
& 57P^{11}R^{12}Q^{24} + 168PR^{16}Q^{23} + 128P^4R^{15}Q^{23} + 40P^7R^{14}Q^{23} + 162P^{10}R^{13}Q^{23} + 96R^{17}Q^{22} + \\
& 74P^3R^{16}Q^{22} + 25P^6R^{15}Q^{22} + 145P^9R^{14}Q^{22} + 100P^2R^{17}Q^{21} + 33P^5R^{16}Q^{21} + 41P^8R^{15}Q^{21} + \\
& 103P^{11}R^{14}Q^{21} + 130PR^{18}Q^{20} + 73P^4R^{17}Q^{20} + 36P^7R^{16}Q^{20} + 10P^{10}R^{15}Q^{20} + 157R^{19}Q^{19} + \\
& 5P^3R^{18}Q^{19} + 13P^6R^{17}Q^{19} + 37P^9R^{16}Q^{19} + 137P^2R^{19}Q^{18} + 159P^5R^{18}Q^{18} + 96P^8R^{17}Q^{18} + \\
& 130P^{11}R^{16}Q^{18} + 94PR^{20}Q^{17} + 129P^4R^{19}Q^{17} + 174P^7R^{18}Q^{17} + 28P^{10}R^{17}Q^{17} + 20R^{21}Q^{16} + \\
& 58P^3R^{20}Q^{16} + 11P^6R^{19}Q^{16} + 100P^9R^{18}Q^{16} + 121P^2R^{21}Q^{15} + 104P^5R^{20}Q^{15} + 126P^8R^{19}Q^{15} + \\
& 139P^{11}R^{18}Q^{15} + 106PR^{22}Q^{14} + 72P^4R^{21}Q^{14} + 65P^7R^{20}Q^{14} + 58P^{10}R^{19}Q^{14} + 115R^{23}Q^{13} + \\
& P^3R^{22}Q^{13} + 54P^6R^{21}Q^{13} + 121P^9R^{20}Q^{13} + 112P^2R^{23}Q^{12} + 68P^5R^{22}Q^{12} + 111P^8R^{21}Q^{12} + \\
& 107P^{11}R^{20}Q^{12} + 12PR^{24}Q^{11} + 137P^4R^{23}Q^{11} + 3P^7R^{22}Q^{11} + 8P^{10}R^{21}Q^{11} + 41R^{25}Q^{10} + \\
& 152P^3R^{24}Q^{10} + 142P^6R^{23}Q^{10} + 178P^9R^{22}Q^{10} + 55P^2R^{25}Q^9 + 126P^5R^{24}Q^9 + 160P^8R^{23}Q^9 + \\
& 151P^{11}R^{22}Q^9 + 156PR^{26}Q^8 + 21P^4R^{25}Q^8 + 107P^7R^{24}Q^8 + 119P^{10}R^{23}Q^8 + 178R^{27}Q^7 + \\
& 13P^3R^{26}Q^7 + 66P^6R^{25}Q^7 + 147P^9R^{24}Q^7 + 27P^2R^{27}Q^6 + 138P^5R^{26}Q^6 + 69P^8R^{25}Q^6 + \\
& 111P^{11}R^{24}Q^6 + 118PR^{28}Q^5 + 74P^4R^{27}Q^5 + 34P^7R^{26}Q^5 + 46P^{10}R^{25}Q^5 + 42R^{29}Q^4 + \\
& 103P^3R^{28}Q^4 + 74P^6R^{27}Q^4 + 81P^9R^{26}Q^4 + 27P^2R^{29}Q^3 + 34P^5R^{28}Q^3 + 27P^8R^{27}Q^3 + \\
& 36P^{11}R^{26}Q^3 + 17PR^{30}Q^2 + 22P^4R^{29}Q^2 + 178P^7R^{28}Q^2 + 110P^{10}R^{27}Q^2 + 134R^{31}Q + \\
& 118P^3R^{30}Q + 123P^6R^{29}Q + 64P^9R^{28}Q + 132P^2R^{31} + 82P^5R^{30} + 145P^8R^{29} + 13P^{11}R^{28}) \\
& = (Q^3 - R^2)^{16} - 179(2Q^{48} - 66P^2Q^{47} - 70P^4Q^{46} + 34PRQ^{46} - 77P^6Q^{45} + 62R^2Q^{45} - \\
& 96P^3RQ^{45} - 24P^8Q^{44} + 18P^2R^2Q^{44} + 36P^5RQ^{44} - 122P^{10}Q^{43} + 40PR^3Q^{43} - 50P^4R^2Q^{43} - \\
& 124P^7RQ^{43} - 14P^{12}Q^{42} + 131R^4Q^{42} - 28P^3R^3Q^{42} + 49P^6R^2Q^{42} + 44P^9RQ^{42} + 57P^2R^4Q^{41} + \\
& 102P^5R^3Q^{41} - 48P^8R^2Q^{41} - 30PR^5Q^{40} + 8P^4R^4Q^{40} - 20P^7R^3Q^{40} - 34P^{10}R^2Q^{40} + 114R^6Q^{39} + \\
& 36P^3R^5Q^{39} + 46P^6R^4Q^{39} - 18P^9R^3Q^{39} - 29P^{12}R^2Q^{39} - 63P^2R^6Q^{38} + 78P^5R^5Q^{38} - \\
& 24P^8R^4Q^{38} - 96P^{11}R^3Q^{38} - 30PR^7Q^{37} - 39P^4R^6Q^{37} + 16P^7R^5Q^{37} + 129P^{10}R^4Q^{37} + \\
& 115R^8Q^{36} - 12P^3R^7Q^{36} + 34P^6R^6Q^{36} - 106P^9R^5Q^{36} - 153P^{12}R^4Q^{36} + 6P^2R^8Q^{35} + \\
& 96P^5R^7Q^{35} + 102P^8R^6Q^{35} + 76PR^9Q^{34} - 47P^4R^8Q^{34} - 48P^7R^7Q^{34} + 14P^{10}R^6Q^{34} + 7R^{10}Q^{33} + \\
& 44P^3R^9Q^{33} - 44P^6R^8Q^{33} + 16P^9R^7Q^{33} - 108P^{12}R^6Q^{33} - 18P^2R^{10}Q^{32} + 84P^5R^9Q^{32} + \\
& 18P^8R^8Q^{32} + 12P^{11}R^7Q^{32} + 62PR^{11}Q^{31} - 68P^4R^{10}Q^{31} - 24P^7R^9Q^{31} - 10P^{10}R^8Q^{31} + \\
& 100R^{12}Q^{30} + 140P^3R^{11}Q^{30} + 61P^6R^{10}Q^{30} - 44P^9R^9Q^{30} - 134P^{12}R^8Q^{30} - 144P^2R^{12}Q^{29} - \\
& 84P^5R^{11}Q^{29} + 138P^8R^{10}Q^{29} + 60P^{11}R^9Q^{29} + 72PR^{13}Q^{28} + 131P^4R^{12}Q^{28} - 40P^7R^{11}Q^{28} - \\
& 63P^{10}R^{10}Q^{28} + 4R^{14}Q^{27} + 84P^3R^{13}Q^{27} + 20P^6R^{12}Q^{27} - 12P^9R^{11}Q^{27} - 43P^{12}R^{10}Q^{27} - \\
& 21P^2R^{14}Q^{26} - 96P^5R^{13}Q^{26} - 36P^8R^{12}Q^{26} - 108P^{11}R^{11}Q^{26} + 40PR^{15}Q^{25} - 7P^4R^{14}Q^{25} + \\
& 104P^7R^{13}Q^{25} + 8P^{10}R^{12}Q^{25} + 170R^{16}Q^{24} + 100P^3R^{15}Q^{24} - 50P^6R^{14}Q^{24} + 122P^9R^{13}Q^{24} - \\
& 57P^{12}R^{12}Q^{24} - 102P^2R^{16}Q^{23} - 78P^5R^{15}Q^{23} + 9P^8R^{14}Q^{23} - 84P^{11}R^{13}Q^{23} + 64PR^{17}Q^{22} + \\
& 31P^4R^{16}Q^{22} + 16P^7R^{15}Q^{22} - 52P^{10}R^{14}Q^{22} + 84R^{18}Q^{21} - 64P^3R^{17}Q^{21} - 13P^6R^{16}Q^{21} + \\
& 50P^9R^{15}Q^{21} - 103P^{12}R^{14}Q^{21} - 3P^2R^{18}Q^{20} + 36P^5R^{17}Q^{20} + 39P^8R^{16}Q^{20} + 108P^{11}R^{15}Q^{20} - \\
& 44PR^{19}Q^{19} + 114P^4R^{18}Q^{19} + 112P^7R^{17}Q^{19} - 9P^{10}R^{16}Q^{19} + 126R^{20}Q^{18} - 100P^3R^{19}Q^{18} - \\
& 145P^6R^{18}Q^{18} - 20P^9R^{17}Q^{18} - 130P^{12}R^{16}Q^{18} + 42P^2R^{20}Q^{17} - 54P^5R^{19}Q^{17} + 108P^{11}R^{17}Q^{17} + \\
& 94PR^{21}Q^{16} + 42P^4R^{20}Q^{16} + 104P^7R^{19}Q^{16} - 45P^{10}R^{18}Q^{16} + 72R^{22}Q^{15} - 104P^3R^{21}Q^{15} - \\
& 63P^6R^{20}Q^{15} - 8P^9R^{19}Q^{15} - 139P^{12}R^{18}Q^{15} + 15P^2R^{22}Q^{14} + 12P^5R^{21}Q^{14} + 60P^8R^{20}Q^{14} + \\
& 60P^{11}R^{19}Q^{14} - 78PR^{23}Q^{13} + 129P^4R^{22}Q^{13} - 28P^7R^{21}Q^{13} - 92P^{10}R^{20}Q^{13} + 78R^{24}Q^{12} + \\
& 8P^3R^{23}Q^{12} + 55P^6R^{22}Q^{12} + 54P^9R^{21}Q^{12} - 107P^{12}R^{20}Q^{12} + 66P^2R^{24}Q^{11} - 18P^5R^{23}Q^{11} + \\
& 159P^8R^{22}Q^{11} + 132P^{11}R^{21}Q^{11} + 96PR^{25}Q^{10} - 104P^4R^{24}Q^{10} - 52P^7R^{23}Q^{10} - 77P^{10}R^{22}Q^{10} + \\
& 168R^{26}Q^9 - 12P^3R^{25}Q^9 - 39P^6R^{24}Q^9 + 2P^9R^{23}Q^9 - 151P^{12}R^{22}Q^9 - 129P^2R^{26}Q^8 + \\
& 126P^5R^{25}Q^8 - 12P^8R^{24}Q^8 - 50PR^{27}Q^7 + 61P^4R^{26}Q^7 - 16P^7R^{25}Q^7 - 82P^{10}R^{24}Q^7 + 70R^{28}Q^6 +
\end{aligned}$$

$$\begin{aligned}
& 72P^3R^{27}Q^6 - 64P^6R^{26}Q^6 + 26P^9R^{25}Q^6 - 111P^{12}R^{24}Q^6 - 93P^2R^{28}Q^5 - 24P^5R^{27}Q^5 + \\
& 3P^8R^{26}Q^5 - 14PR^{29}Q^4 - 77P^4R^{28}Q^4 + 96P^7R^{27}Q^4 + 25P^{10}R^{26}Q^4 + 143R^{30}Q^3 + 100P^3R^{29}Q^3 + \\
& 98P^6R^{28}Q^3 + 46P^9R^{27}Q^3 - 36P^{12}R^{26}Q^3 + 123P^2R^{30}Q^2 + 66P^5R^{29}Q^2 - 36P^8R^{28}Q^2 - \\
& 96P^{11}R^{27}Q^2 - 140PR^{31}Q - 120P^4R^{30}Q - 112P^7R^{29}Q - 59P^{10}R^{28}Q + 3R^{32} - 136P^3R^{31} - \\
& 82P^6R^{30} - 146P^9R^{29} - 13P^{12}R^{28})
\end{aligned}$$


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$$p_{24}(2411t + 2410) \equiv 0 \pmod{2411}$$

$$\begin{aligned}
& 12\vartheta(2315R^{1609} + 2171PQR^{1608} + 2141P^2Q^2R^{1607} + 100Q^3R^{1607} + 2231P^3Q^3R^{1606} + \\
& 759PQ^4R^{1606} + 524P^4Q^4R^{1605} + 221P^2Q^5R^{1605} + 2086P^5Q^5R^{1604} + 479Q^6R^{1605} + \\
& 730P^3Q^6R^{1604} + 1841P^6Q^6R^{1603} + 1061PQ^7R^{1604} + 72P^4Q^7R^{1603} + 263P^7Q^7R^{1602} + \\
& 402P^2Q^8R^{1603} + 520P^5Q^8R^{1602} + 100P^8Q^8R^{1601} + 2099Q^9R^{1603} + 219P^3Q^9R^{1602} + \\
& 614P^6Q^9R^{1601} + 1345P^9Q^9R^{1600} + 1879PQ^{10}R^{1602} + 1527P^4Q^{10}R^{1601} + 734P^7Q^{10}R^{1600} + \\
& 335P^{10}Q^{10}R^{1599} + 59P^2Q^{11}R^{1601} + 1489P^5Q^{11}R^{1600} + 1012P^8Q^{11}R^{1599} + 43Q^{12}R^{1601} + \\
& 1435P^3Q^{12}R^{1600} + 283P^6Q^{12}R^{1599} + 703P^9Q^{12}R^{1598} + 235PQ^{13}R^{1600} + 1815P^4Q^{13}R^{1599} + \\
& 1229P^7Q^{13}R^{1598} + 382P^{10}Q^{13}R^{1597} + 862P^2Q^{14}R^{1599} + 473P^5Q^{14}R^{1598} + 512P^8Q^{14}R^{1597} + \\
& 1269Q^{15}R^{1599} + 1207P^3Q^{15}R^{1598} + 1257P^6Q^{15}R^{1597} + 931P^9Q^{15}R^{1596} + 1011PQ^{16}R^{1598} + \\
& 1287P^4Q^{16}R^{1597} + 1542P^7Q^{16}R^{1596} + 799P^{10}Q^{16}R^{1595} + 218P^2Q^{17}R^{1597} + 534P^5Q^{17}R^{1596} + \\
& 518P^8Q^{17}R^{1595} + 164Q^{18}R^{1597} + 2097P^3Q^{18}R^{1596} + 2376P^6Q^{18}R^{1595} + 46P^9Q^{18}R^{1594} + \\
& 507PQ^{19}R^{1596} + 1430P^4Q^{19}R^{1595} + 1704P^7Q^{19}R^{1594} + 271P^{10}Q^{19}R^{1593} + 509P^2Q^{20}R^{1595} + \\
& 1709P^5Q^{20}R^{1594} + 1442P^8Q^{20}R^{1593} + 1177Q^{21}R^{1595} + 2252P^3Q^{21}R^{1594} + 15P^6Q^{21}R^{1593} + \\
& 1481P^9Q^{21}R^{1592} + 2377PQ^{22}R^{1594} + 490P^4Q^{22}R^{1593} + 2405P^7Q^{22}R^{1592} + 1131P^{10}Q^{22}R^{1591} + \\
& 123P^2Q^{23}R^{1593} + 1255P^5Q^{23}R^{1592} + 76P^8Q^{23}R^{1591} + 1209Q^{24}R^{1593} + 661P^3Q^{24}R^{1592} + \\
& 1561P^6Q^{24}R^{1591} + 851P^9Q^{24}R^{1590} + 477PQ^{25}R^{1592} + 1080P^4Q^{25}R^{1591} + 1401P^7Q^{25}R^{1590} + \\
& 1141P^{10}Q^{25}R^{1589} + 2164P^2Q^{26}R^{1591} + 1407P^5Q^{26}R^{1590} + 1893P^8Q^{26}R^{1589} + 1695Q^{27}R^{1591} + \\
& 2380P^3Q^{27}R^{1590} + 96P^6Q^{27}R^{1589} + 481P^9Q^{27}R^{1588} + 892PQ^{28}R^{1590} + 1483P^4Q^{28}R^{1589} + \\
& 1858P^7Q^{28}R^{1588} + 2395P^{10}Q^{28}R^{1587} + 1919P^2Q^{29}R^{1589} + 2123P^5Q^{29}R^{1588} + 2367P^8Q^{29}R^{1587} + \\
& 1417Q^{30}R^{1589} + 132P^3Q^{30}R^{1588} + 490P^6Q^{30}R^{1587} + 2314P^9Q^{30}R^{1586} + 987PQ^{31}R^{1588} + \\
& 518P^4Q^{31}R^{1587} + 1679P^7Q^{31}R^{1586} + 664P^{10}Q^{31}R^{1585} + 2111P^2Q^{32}R^{1587} + 2302P^5Q^{32}R^{1586} + \\
& 720P^8Q^{32}R^{1585} + 2251Q^{33}R^{1587} + 2347P^3Q^{33}R^{1586} + 104P^6Q^{33}R^{1585} + 1620P^9Q^{33}R^{1584} + \\
& 2040PQ^{34}R^{1586} + 2185P^4Q^{34}R^{1585} + 690P^7Q^{34}R^{1584} + 1588P^{10}Q^{34}R^{1583} + 1731P^2Q^{35}R^{1585} + \\
& 1815P^5Q^{35}R^{1584} + 772P^8Q^{35}R^{1583} + 520Q^{36}R^{1585} + 1385P^3Q^{36}R^{1584} + 143P^6Q^{36}R^{1583} + \\
& 136P^9Q^{36}R^{1582} + 1548PQ^{37}R^{1584} + 777P^4Q^{37}R^{1583} + 680P^7Q^{37}R^{1582} + 981P^{10}Q^{37}R^{1581} + \\
& 940P^2Q^{38}R^{1583} + 174P^5Q^{38}R^{1582} + 620P^8Q^{38}R^{1581} + 4Q^{39}R^{1583} + 2384P^3Q^{39}R^{1582} + \\
& 418P^6Q^{39}R^{1581} + 1654P^9Q^{39}R^{1580} + 1343PQ^{40}R^{1582} + 1712P^4Q^{40}R^{1581} + 746P^7Q^{40}R^{1580} + \\
& 1401P^{10}Q^{40}R^{1579} + 617P^2Q^{41}R^{1581} + 91P^5Q^{41}R^{1580} + 579P^8Q^{41}R^{1579} + 2019Q^{42}R^{1581} + \\
& 79P^3Q^{42}R^{1580} + 1642P^6Q^{42}R^{1579} + 103P^9Q^{42}R^{1578} + 456PQ^{43}R^{1580} + 592P^4Q^{43}R^{1579} + \\
& 274P^7Q^{43}R^{1578} + 334P^{10}Q^{43}R^{1577} + 206P^2Q^{44}R^{1579} + 49P^5Q^{44}R^{1578} + 134P^8Q^{44}R^{1577} + \\
& 82Q^{45}R^{1579} + 1461P^3Q^{45}R^{1578} + 778P^6Q^{45}R^{1577} + 673P^9Q^{45}R^{1576} + 199PQ^{46}R^{1578} + \\
& 575P^4Q^{46}R^{1577} + 378P^7Q^{46}R^{1576} + 2234P^{10}Q^{46}R^{1575} + 2327P^2Q^{47}R^{1577} + 1091P^5Q^{47}R^{1576} + \\
& 1604P^8Q^{47}R^{1575} + 1591Q^{48}R^{1577} + 1374P^3Q^{48}R^{1576} + 2372P^6Q^{48}R^{1575} + 1363P^9Q^{48}R^{1574} + \\
& 1171PQ^{49}R^{1576} + 2142P^4Q^{49}R^{1575} + 1428P^7Q^{49}R^{1574} + 1517P^{10}Q^{49}R^{1573} + 691P^2Q^{50}R^{1575} + \\
& 440P^5Q^{50}R^{1574} + 1962P^8Q^{50}R^{1573} + 220Q^{51}R^{1575} + 2055P^3Q^{51}R^{1574} + 752P^6Q^{51}R^{1573} + \\
& 2203P^9Q^{51}R^{1572} + 1781PQ^{52}R^{1574} + 2068P^4Q^{52}R^{1573} + 1683P^7Q^{52}R^{1572} + 180P^{10}Q^{52}R^{1571} + \\
& 1202P^2Q^{53}R^{1573} + 2090P^5Q^{53}R^{1572} + 1905P^8Q^{53}R^{1571} + 2232Q^{54}R^{1573} + 1909P^3Q^{54}R^{1572} + \\
& 365P^6Q^{54}R^{1571} + 1792P^9Q^{54}R^{1570} + 514P^4Q^{55}R^{1571} + 1603P^7Q^{55}R^{1570} + 55P^{10}Q^{55}R^{1569} + \\
& 2210P^2Q^{56}R^{1571} + 755P^5Q^{56}R^{1570} + 2051P^8Q^{56}R^{1569} + 367Q^{57}R^{1571} + 913P^3Q^{57}R^{1570} + \\
& 1120P^6Q^{57}R^{1569} + 338P^9Q^{57}R^{1568} + 2096PQ^{58}R^{1570} + 37P^4Q^{58}R^{1569} + 1912P^7Q^{58}R^{1568} +
\end{aligned}$$

$$\begin{aligned}
& 2176P^{10}Q^{58}R^{1567} + 608P^2Q^{59}R^{1569} + 260P^5Q^{59}R^{1568} + 2092P^8Q^{59}R^{1567} + 626Q^{60}R^{1569} + \\
& 1796P^3Q^{60}R^{1568} + 1465P^6Q^{60}R^{1567} + 1545P^9Q^{60}R^{1566} + 1352PQ^{61}R^{1568} + 1168P^4Q^{61}R^{1567} + \\
& 619P^7Q^{61}R^{1566} + 2372P^{10}Q^{61}R^{1565} + 319P^2Q^{62}R^{1567} + 493P^5Q^{62}R^{1566} + 204P^8Q^{62}R^{1565} + \\
& 1561Q^{63}R^{1567} + 602P^3Q^{63}R^{1566} + 768P^6Q^{63}R^{1565} + 1007P^9Q^{63}R^{1564} + 2322PQ^{64}R^{1566} + \\
& 819P^4Q^{64}R^{1565} + 982P^7Q^{64}R^{1564} + 50P^{10}Q^{64}R^{1563} + 834P^2Q^{65}R^{1565} + 1306P^5Q^{65}R^{1564} + \\
& 1576P^8Q^{65}R^{1563} + 1276Q^{66}R^{1565} + 1930P^3Q^{66}R^{1564} + 7P^6Q^{66}R^{1563} + 52P^9Q^{66}R^{1562} + \\
& 31PQ^{67}R^{1564} + 1432P^4Q^{67}R^{1563} + 294P^7Q^{67}R^{1562} + 2029P^{10}Q^{67}R^{1561} + 1902P^2Q^{68}R^{1563} + \\
& 1333P^5Q^{68}R^{1562} + 745P^8Q^{68}R^{1561} + 2336Q^{69}R^{1563} + 944P^3Q^{69}R^{1562} + 137P^6Q^{69}R^{1561} + \\
& 1870P^9Q^{69}R^{1560} + 1683PQ^{70}R^{1562} + 2006P^4Q^{70}R^{1561} + 1334P^7Q^{70}R^{1560} + 1229P^{10}Q^{70}R^{1559} + \\
& 1273P^2Q^{71}R^{1561} + 2250P^5Q^{71}R^{1560} + 2365P^8Q^{71}R^{1559} + 2361Q^{72}R^{1561} + 1033P^3Q^{72}R^{1560} + \\
& 457P^6Q^{72}R^{1559} + 1282P^9Q^{72}R^{1558} + 1805PQ^{73}R^{1560} + 319P^4Q^{73}R^{1559} + 1338P^7Q^{73}R^{1558} + \\
& 1258P^{10}Q^{73}R^{1557} + 1240P^2Q^{74}R^{1559} + 755P^5Q^{74}R^{1558} + 125P^8Q^{74}R^{1557} + 1997Q^{75}R^{1559} + \\
& 2164P^3Q^{75}R^{1558} + 833P^6Q^{75}R^{1557} + 1047P^9Q^{75}R^{1556} + 1030PQ^{76}R^{1558} + 80P^4Q^{76}R^{1557} + \\
& 2167P^7Q^{76}R^{1556} + 928P^{10}Q^{76}R^{1555} + 1975P^2Q^{77}R^{1557} + 1071P^5Q^{77}R^{1556} + 708P^8Q^{77}R^{1555} + \\
& 91Q^{78}R^{1557} + 1979P^3Q^{78}R^{1556} + 33P^6Q^{78}R^{1555} + 792P^9Q^{78}R^{1554} + 650PQ^{79}R^{1556} + \\
& 1553P^4Q^{79}R^{1555} + 1881P^7Q^{79}R^{1554} + 711P^{10}Q^{79}R^{1553} + 1615P^2Q^{80}R^{1555} + 547P^5Q^{80}R^{1554} + \\
& 562P^8Q^{80}R^{1553} + 440Q^{81}R^{1555} + 503P^3Q^{81}R^{1554} + 1622P^6Q^{81}R^{1553} + 1493P^9Q^{81}R^{1552} + \\
& 217PQ^{82}R^{1554} + 166P^4Q^{82}R^{1553} + 1900P^7Q^{82}R^{1552} + 2321P^{10}Q^{82}R^{1551} + 759P^2Q^{83}R^{1553} + \\
& 2360P^5Q^{83}R^{1552} + 957P^8Q^{83}R^{1551} + 1982Q^{84}R^{1553} + 1184P^3Q^{84}R^{1552} + 823P^6Q^{84}R^{1551} + \\
& 2072P^9Q^{84}R^{1550} + 953PQ^{85}R^{1552} + 2106P^4Q^{85}R^{1551} + 1729P^7Q^{85}R^{1550} + 257P^{10}Q^{85}R^{1549} + \\
& 1624P^2Q^{86}R^{1551} + 2258P^5Q^{86}R^{1550} + 2366P^8Q^{86}R^{1549} + 18Q^{87}R^{1551} + 727P^3Q^{87}R^{1550} + \\
& 2245P^6Q^{87}R^{1549} + 1514P^9Q^{87}R^{1548} + 123PQ^{88}R^{1550} + 1669P^4Q^{88}R^{1549} + 2182P^7Q^{88}R^{1548} + \\
& 753P^{10}Q^{88}R^{1547} + 523P^2Q^{89}R^{1549} + 2118P^5Q^{89}R^{1548} + 1331P^8Q^{89}R^{1547} + 2086Q^{90}R^{1549} + \\
& 2054P^3Q^{90}R^{1548} + 790P^6Q^{90}R^{1547} + 171P^9Q^{90}R^{1546} + 2224PQ^{91}R^{1548} + 1443P^4Q^{91}R^{1547} + \\
& 1981P^7Q^{91}R^{1546} + 544P^{10}Q^{91}R^{1545} + 273P^2Q^{92}R^{1547} + 1732P^5Q^{92}R^{1546} + 653P^8Q^{92}R^{1545} + \\
& 116Q^{93}R^{1547} + 582P^3Q^{93}R^{1546} + 502P^6Q^{93}R^{1545} + 1208P^9Q^{93}R^{1544} + 2351PQ^{94}R^{1546} + \\
& 1967P^4Q^{94}R^{1545} + 1879P^7Q^{94}R^{1544} + 1006P^{10}Q^{94}R^{1543} + 1523P^2Q^{95}R^{1545} + 901P^5Q^{95}R^{1544} + \\
& 1790P^8Q^{95}R^{1543} + 436Q^{96}R^{1545} + 1448P^3Q^{96}R^{1544} + 2350P^6Q^{96}R^{1543} + 1279P^9Q^{96}R^{1542} + \\
& 804PQ^{97}R^{1544} + 152P^4Q^{97}R^{1543} + 1927P^7Q^{97}R^{1542} + 1669P^{10}Q^{97}R^{1541} + 2137P^2Q^{98}R^{1543} + \\
& 1135P^5Q^{98}R^{1542} + 727P^8Q^{98}R^{1541} + 1116Q^{99}R^{1543} + 871P^3Q^{99}R^{1542} + 554P^6Q^{99}R^{1541} + \\
& 497P^9Q^{99}R^{1540} + 2312PQ^{100}R^{1542} + 425P^4Q^{100}R^{1541} + 2217P^7Q^{100}R^{1540} + 1246P^{10}Q^{100}R^{1539} + \\
& 756P^2Q^{101}R^{1541} + 2281P^5Q^{101}R^{1540} + 2130P^8Q^{101}R^{1539} + 1712Q^{102}R^{1541} + 2053P^3Q^{102}R^{1540} + \\
& 1204P^6Q^{102}R^{1539} + 2103P^9Q^{102}R^{1538} + 880PQ^{103}R^{1540} + 1752P^4Q^{103}R^{1539} + 693P^7Q^{103}R^{1538} + \\
& 22P^{10}Q^{103}R^{1537} + 1962P^2Q^{104}R^{1539} + 1829P^5Q^{104}R^{1538} + 691P^8Q^{104}R^{1537} + 1758Q^{105}R^{1539} + \\
& 1077P^3Q^{105}R^{1538} + 1220P^6Q^{105}R^{1537} + 421P^9Q^{105}R^{1536} + 1826PQ^{106}R^{1538} + 428P^4Q^{106}R^{1537} + \\
& 178P^7Q^{106}R^{1536} + 1598P^{10}Q^{106}R^{1535} + 733P^2Q^{107}R^{1537} + 2375P^5Q^{107}R^{1536} + 961P^8Q^{107}R^{1535} + \\
& 1854Q^{108}R^{1537} + 377P^3Q^{108}R^{1536} + 1088P^6Q^{108}R^{1535} + 2137P^9Q^{108}R^{1534} + 1151PQ^{109}R^{1536} + \\
& 194P^4Q^{109}R^{1535} + 1450P^7Q^{109}R^{1534} + 1026P^{10}Q^{109}R^{1533} + 1524P^2Q^{110}R^{1535} + \\
& 1772P^5Q^{110}R^{1534} + 799P^8Q^{110}R^{1533} + 1374Q^{111}R^{1535} + 1410P^3Q^{111}R^{1534} + 1962P^6Q^{111}R^{1533} + \\
& 328P^9Q^{111}R^{1532} + 736PQ^{112}R^{1534} + 2246P^4Q^{112}R^{1533} + 1944P^7Q^{112}R^{1532} + 1302P^{10}Q^{112}R^{1531} + \\
& 1906P^2Q^{113}R^{1533} + 1302P^5Q^{113}R^{1532} + 80P^8Q^{113}R^{1531} + 16Q^{114}R^{1533} + 486P^3Q^{114}R^{1532} + \\
& 1491P^6Q^{114}R^{1531} + 2010P^9Q^{114}R^{1530} + 130PQ^{115}R^{1532} + 1500P^4Q^{115}R^{1531} + 2383P^7Q^{115}R^{1530} + \\
& 221P^{10}Q^{115}R^{1529} + 813P^2Q^{116}R^{1531} + 2131P^5Q^{116}R^{1530} + 840P^8Q^{116}R^{1529} + 1612Q^{117}R^{1531} + \\
& 285P^3Q^{117}R^{1530} + 45P^6Q^{117}R^{1529} + 1425P^9Q^{117}R^{1528} + 1044PQ^{118}R^{1530} + 1335P^4Q^{118}R^{1529} + \\
& 2104P^7Q^{118}R^{1528} + 361P^{10}Q^{118}R^{1527} + 1018P^2Q^{119}R^{1529} + 574P^5Q^{119}R^{1528} + \\
& 1459P^8Q^{119}R^{1527} + 672Q^{120}R^{1529} + 864P^3Q^{120}R^{1528} + 160P^6Q^{120}R^{1527} + 166P^9Q^{120}R^{1526} + \\
& 2226PQ^{121}R^{1528} + 486P^4Q^{121}R^{1527} + 1090P^7Q^{121}R^{1526} + 320P^{10}Q^{121}R^{1525} + 2113P^2Q^{122}R^{1527} + \\
& 1137P^5Q^{122}R^{1526} + 921P^8Q^{122}R^{1525} + 314Q^{123}R^{1527} + 1964P^3Q^{123}R^{1526} + 1422P^6Q^{123}R^{1525} + \\
& 1485P^9Q^{123}R^{1524} + 2066PQ^{124}R^{1526} + 717P^4Q^{124}R^{1525} + 1769P^7Q^{124}R^{1524} + 521P^{10}Q^{124}R^{1523} +
\end{aligned}$$



$$\begin{aligned}
& 1638P^2Q^{125}R^{1525} + 783P^5Q^{125}R^{1524} + 1106P^8Q^{125}R^{1523} + 765Q^{126}R^{1525} + 793P^3Q^{126}R^{1524} + \\
& 2372P^6Q^{126}R^{1523} + 1075P^9Q^{126}R^{1522} + 1718PQ^{127}R^{1524} + 653P^4Q^{127}R^{1523} + 1021P^7Q^{127}R^{1522} + \\
& 298P^{10}Q^{127}R^{1521} + 942P^2Q^{128}R^{1523} + 1319P^5Q^{128}R^{1522} + 176P^8Q^{128}R^{1521} + 1757Q^{129}R^{1523} + \\
& 1619P^3Q^{129}R^{1522} + 213P^6Q^{129}R^{1521} + 1940P^9Q^{129}R^{1520} + 1747PQ^{130}R^{1522} + 1034P^4Q^{130}R^{1521} + \\
& 2321P^7Q^{130}R^{1520} + 1673P^{10}Q^{130}R^{1519} + 1823P^2Q^{131}R^{1521} + 516P^5Q^{131}R^{1520} + \\
& 1953P^8Q^{131}R^{1519} + 1475Q^{132}R^{1521} + 713P^3Q^{132}R^{1520} + 763P^6Q^{132}R^{1519} + 1280P^9Q^{132}R^{1518} + \\
& 1249PQ^{133}R^{1520} + 753P^4Q^{133}R^{1519} + 69P^7Q^{133}R^{1518} + 518P^{10}Q^{133}R^{1517} + 1203P^2Q^{134}R^{1519} + \\
& 1314P^5Q^{134}R^{1518} + 781P^8Q^{134}R^{1517} + 917Q^{135}R^{1519} + 2115P^3Q^{135}R^{1518} + 461P^6Q^{135}R^{1517} + \\
& 987P^9Q^{135}R^{1516} + 2031PQ^{136}R^{1518} + 505P^4Q^{136}R^{1517} + 574P^7Q^{136}R^{1516} + 2304P^{10}Q^{136}R^{1515} + \\
& 1942P^2Q^{137}R^{1517} + 177P^5Q^{137}R^{1516} + 535P^8Q^{137}R^{1515} + 1117Q^{138}R^{1517} + 1886P^3Q^{138}R^{1516} + \\
& 958P^6Q^{138}R^{1515} + 215P^9Q^{138}R^{1514} + 939PQ^{139}R^{1516} + 1811P^4Q^{139}R^{1515} + 1623P^7Q^{139}R^{1514} + \\
& 2153P^{10}Q^{139}R^{1513} + 1510P^2Q^{140}R^{1515} + 1672P^5Q^{140}R^{1514} + 1895P^8Q^{140}R^{1513} + 811Q^{141}R^{1515} + \\
& 1140P^3Q^{141}R^{1514} + 1376P^6Q^{141}R^{1513} + 695P^9Q^{141}R^{1512} + 431PQ^{142}R^{1514} + 314P^4Q^{142}R^{1513} + \\
& 89P^7Q^{142}R^{1512} + 453P^{10}Q^{142}R^{1511} + 262P^2Q^{143}R^{1513} + 1238P^5Q^{143}R^{1512} + 1401P^8Q^{143}R^{1511} + \\
& 390Q^{144}R^{1513} + 1813P^3Q^{144}R^{1512} + 2178P^6Q^{144}R^{1511} + 503P^9Q^{144}R^{1510} + 688PQ^{145}R^{1512} + \\
& 89P^4Q^{145}R^{1511} + 283P^7Q^{145}R^{1510} + 1504P^{10}Q^{145}R^{1509} + 1052P^2Q^{146}R^{1511} + 770P^5Q^{146}R^{1510} + \\
& 406P^8Q^{146}R^{1509} + 2326Q^{147}R^{1511} + 2089P^3Q^{147}R^{1510} + 1689P^6Q^{147}R^{1509} + 705P^9Q^{147}R^{1508} + \\
& 997P^4Q^{148}R^{1509} + 2354P^7Q^{148}R^{1508} + 2335P^{10}Q^{148}R^{1507} + 1839P^2Q^{149}R^{1509} + \\
& 343P^5Q^{149}R^{1508} + 2268P^8Q^{149}R^{1507} + 1646Q^{150}R^{1509} + 42P^3Q^{150}R^{1508} + 925P^6Q^{150}R^{1507} + \\
& 243P^9Q^{150}R^{1506} + 1546PQ^{151}R^{1508} + 1231P^4Q^{151}R^{1507} + 1772P^7Q^{151}R^{1506} + 240P^{10}Q^{151}R^{1505} + \\
& 1260P^2Q^{152}R^{1507} + 942P^5Q^{152}R^{1506} + 272P^8Q^{152}R^{1505} + 757Q^{153}R^{1507} + 1830P^3Q^{153}R^{1506} + \\
& 2221P^6Q^{153}R^{1505} + 1436P^9Q^{153}R^{1504} + 2232PQ^{154}R^{1506} + 1224P^4Q^{154}R^{1505} + 617P^7Q^{154}R^{1504} + \\
& 1040P^{10}Q^{154}R^{1503} + 477P^2Q^{155}R^{1505} + 1093P^5Q^{155}R^{1504} + 1632P^8Q^{155}R^{1503} + \\
& 549Q^{156}R^{1505} + 2245P^3Q^{156}R^{1504} + 549P^6Q^{156}R^{1503} + 1539P^9Q^{156}R^{1502} + 2076PQ^{157}R^{1504} + \\
& 1190P^4Q^{157}R^{1503} + 254P^7Q^{157}R^{1502} + 1496P^{10}Q^{157}R^{1501} + 1272P^2Q^{158}R^{1503} + \\
& 1147P^5Q^{158}R^{1502} + 417P^8Q^{158}R^{1501} + 504Q^{159}R^{1503} + 2379P^3Q^{159}R^{1502} + 376P^6Q^{159}R^{1501} + \\
& 1636P^9Q^{159}R^{1500} + 1352PQ^{160}R^{1502} + 1942P^4Q^{160}R^{1501} + 37P^7Q^{160}R^{1500} + 424P^{10}Q^{160}R^{1499} + \\
& 2154P^2Q^{161}R^{1501} + 1874P^5Q^{161}R^{1500} + 1098P^8Q^{161}R^{1499} + 1348Q^{162}R^{1501} + 668P^3Q^{162}R^{1500} + \\
& 68P^6Q^{162}R^{1499} + 2352P^9Q^{162}R^{1498} + 2005PQ^{163}R^{1500} + 1723P^4Q^{163}R^{1499} + 1902P^7Q^{163}R^{1498} + \\
& 1299P^{10}Q^{163}R^{1497} + 1829P^2Q^{164}R^{1499} + 1774P^5Q^{164}R^{1498} + 616P^8Q^{164}R^{1497} + 2290Q^{165}R^{1499} + \\
& 985P^3Q^{165}R^{1498} + 1463P^6Q^{165}R^{1497} + 1319P^9Q^{165}R^{1496} + 2373PQ^{166}R^{1498} + 736P^4Q^{166}R^{1497} + \\
& 1895P^7Q^{166}R^{1496} + 1780P^{10}Q^{166}R^{1495} + 2327P^2Q^{167}R^{1497} + 2046P^5Q^{167}R^{1496} + \\
& 132P^8Q^{167}R^{1495} + 1476Q^{168}R^{1497} + 1358P^3Q^{168}R^{1496} + 529P^6Q^{168}R^{1495} + 1242P^9Q^{168}R^{1494} + \\
& 242PQ^{169}R^{1496} + 1433P^4Q^{169}R^{1495} + 2188P^7Q^{169}R^{1494} + 728P^{10}Q^{169}R^{1493} + 426P^2Q^{170}R^{1495} + \\
& 628P^5Q^{170}R^{1494} + 1209P^8Q^{170}R^{1493} + 1971Q^{171}R^{1495} + 2197P^3Q^{171}R^{1494} + 863P^6Q^{171}R^{1493} + \\
& 713P^9Q^{171}R^{1492} + 2372PQ^{172}R^{1494} + 514P^4Q^{172}R^{1493} + 934P^7Q^{172}R^{1492} + 1193P^{10}Q^{172}R^{1491} + \\
& 161P^2Q^{173}R^{1493} + 1290P^5Q^{173}R^{1492} + 1148P^8Q^{173}R^{1491} + 776Q^{174}R^{1493} + 1508P^3Q^{174}R^{1492} + \\
& 414P^6Q^{174}R^{1491} + 508P^9Q^{174}R^{1490} + 1564PQ^{175}R^{1492} + 1164P^4Q^{175}R^{1491} + 1257P^7Q^{175}R^{1490} + \\
& 839P^{10}Q^{175}R^{1489} + 191P^2Q^{176}R^{1491} + 110P^5Q^{176}R^{1490} + 572P^8Q^{176}R^{1489} + 954Q^{177}R^{1491} + \\
& 516P^3Q^{177}R^{1490} + 1728P^6Q^{177}R^{1489} + 815P^9Q^{177}R^{1488} + 876PQ^{178}R^{1490} + 1247P^4Q^{178}R^{1489} + \\
& 596P^7Q^{178}R^{1488} + 638P^{10}Q^{178}R^{1487} + 983P^2Q^{179}R^{1489} + 488P^5Q^{179}R^{1488} + 1802P^8Q^{179}R^{1487} + \\
& 1004Q^{180}R^{1489} + 1781P^3Q^{180}R^{1488} + 1206P^6Q^{180}R^{1487} + 1329P^9Q^{180}R^{1486} + 470PQ^{181}R^{1488} + \\
& 1653P^4Q^{181}R^{1487} + 403P^7Q^{181}R^{1486} + 1747P^{10}Q^{181}R^{1485} + 2060P^2Q^{182}R^{1487} + \\
& 1762P^5Q^{182}R^{1486} + 2395P^8Q^{182}R^{1485} + 545Q^{183}R^{1487} + 1940P^3Q^{183}R^{1486} + 1201P^6Q^{183}R^{1485} + \\
& 369P^9Q^{183}R^{1484} + 518PQ^{184}R^{1486} + 1877P^4Q^{184}R^{1485} + 1126P^7Q^{184}R^{1484} + 1425P^{10}Q^{184}R^{1483} + \\
& 1676P^2Q^{185}R^{1485} + 1374P^5Q^{185}R^{1484} + 1408P^8Q^{185}R^{1483} + 593Q^{186}R^{1485} + 1634P^3Q^{186}R^{1484} + \\
& 1527P^6Q^{186}R^{1483} + 747P^9Q^{186}R^{1482} + 37PQ^{187}R^{1484} + 2267P^4Q^{187}R^{1483} + 1597P^7Q^{187}R^{1482} + \\
& 149P^{10}Q^{187}R^{1481} + 2255P^2Q^{188}R^{1483} + 845P^5Q^{188}R^{1482} + 1920P^8Q^{188}R^{1481} + 2250Q^{189}R^{1483} + \\
& 578P^3Q^{189}R^{1482} + 2263P^6Q^{189}R^{1481} + 204P^9Q^{189}R^{1480} + 599PQ^{190}R^{1482} + 90P^4Q^{190}R^{1481} +
\end{aligned}$$

$$\begin{aligned}
& 1077P^7Q^{190}R^{1480} + 1145P^{10}Q^{190}R^{1479} + 613P^2Q^{191}R^{1481} + 2260P^5Q^{191}R^{1480} + \\
& 1689P^8Q^{191}R^{1479} + 455Q^{192}R^{1481} + 1476P^3Q^{192}R^{1480} + 1733P^6Q^{192}R^{1479} + 318P^9Q^{192}R^{1478} + \\
& 1050PQ^{193}R^{1480} + 1074P^4Q^{193}R^{1479} + 2369P^7Q^{193}R^{1478} + 1055P^{10}Q^{193}R^{1477} + 46P^2Q^{194}R^{1479} + \\
& 275P^5Q^{194}R^{1478} + 1989P^8Q^{194}R^{1477} + 379Q^{195}R^{1479} + 93P^3Q^{195}R^{1478} + 1376P^6Q^{195}R^{1477} + \\
& 1804P^9Q^{195}R^{1476} + 50PQ^{196}R^{1478} + 2284P^4Q^{196}R^{1477} + 511P^7Q^{196}R^{1476} + 335P^{10}Q^{196}R^{1475} + \\
& 960P^2Q^{197}R^{1477} + 2395P^5Q^{197}R^{1476} + 2099P^8Q^{197}R^{1475} + 478Q^{198}R^{1477} + 552P^3Q^{198}R^{1476} + \\
& 389P^6Q^{198}R^{1475} + 1041P^9Q^{198}R^{1474} + 646PQ^{199}R^{1476} + 1328P^4Q^{199}R^{1475} + 935P^7Q^{199}R^{1474} + \\
& 1859P^{10}Q^{199}R^{1473} + 1251P^2Q^{200}R^{1475} + 1902P^5Q^{200}R^{1474} + 1406P^8Q^{200}R^{1473} + 746Q^{201}R^{1475} + \\
& 199P^3Q^{201}R^{1474} + 25P^6Q^{201}R^{1473} + 1490P^9Q^{201}R^{1472} + 1776PQ^{202}R^{1474} + 1841P^4Q^{202}R^{1473} + \\
& 160P^7Q^{202}R^{1472} + 603P^{10}Q^{202}R^{1471} + 1649P^2Q^{203}R^{1473} + 2303P^5Q^{203}R^{1472} + 578P^8Q^{203}R^{1471} + \\
& 1161Q^{204}R^{1473} + 1065P^3Q^{204}R^{1472} + 1825P^6Q^{204}R^{1471} + 1589P^9Q^{204}R^{1470} + 61PQ^{205}R^{1472} + \\
& 2081P^4Q^{205}R^{1471} + 1820P^7Q^{205}R^{1470} + 36P^{10}Q^{205}R^{1469} + 2312P^2Q^{206}R^{1471} + 387P^5Q^{206}R^{1470} + \\
& 1356P^8Q^{206}R^{1469} + 1529Q^{207}R^{1471} + 1080P^3Q^{207}R^{1470} + 1886P^6Q^{207}R^{1469} + 2085P^9Q^{207}R^{1468} + \\
& 2153PQ^{208}R^{1470} + 1308P^4Q^{208}R^{1469} + 2239P^7Q^{208}R^{1468} + 1270P^{10}Q^{208}R^{1467} + \\
& 1350P^2Q^{209}R^{1469} + 2050P^5Q^{209}R^{1468} + 1378P^8Q^{209}R^{1467} + 743Q^{210}R^{1469} + 2306P^3Q^{210}R^{1468} + \\
& 1837P^6Q^{210}R^{1467} + 697P^9Q^{210}R^{1466} + 1382PQ^{211}R^{1468} + 482P^4Q^{211}R^{1467} + 568P^7Q^{211}R^{1466} + \\
& 1842P^{10}Q^{211}R^{1465} + 20P^2Q^{212}R^{1467} + 641P^5Q^{212}R^{1466} + 1451P^8Q^{212}R^{1465} + 609Q^{213}R^{1467} + \\
& 1955P^3Q^{213}R^{1466} + 1574P^6Q^{213}R^{1465} + 285P^9Q^{213}R^{1464} + 1768PQ^{214}R^{1466} + \\
& 1444P^4Q^{214}R^{1465} + 1255P^7Q^{214}R^{1464} + 1086P^{10}Q^{214}R^{1463} + 1105P^2Q^{215}R^{1465} + \\
& 833P^5Q^{215}R^{1464} + 2188P^8Q^{215}R^{1463} + 664Q^{216}R^{1465} + 1141P^3Q^{216}R^{1464} + 1796P^6Q^{216}R^{1463} + \\
& 1504P^9Q^{216}R^{1462} + 38PQ^{217}R^{1464} + 1464P^4Q^{217}R^{1463} + 976P^7Q^{217}R^{1462} + 1263P^{10}Q^{217}R^{1461} + \\
& 1745P^2Q^{218}R^{1463} + 587P^5Q^{218}R^{1462} + 347P^8Q^{218}R^{1461} + 2117Q^{219}R^{1463} + 634P^3Q^{219}R^{1462} + \\
& 205P^6Q^{219}R^{1461} + 2078P^9Q^{219}R^{1460} + 386PQ^{220}R^{1462} + 1889P^4Q^{220}R^{1461} + 1743P^7Q^{220}R^{1460} + \\
& 1394P^{10}Q^{220}R^{1459} + 2404P^2Q^{221}R^{1461} + 405P^5Q^{221}R^{1460} + 1674P^8Q^{221}R^{1459} + \\
& 2151Q^{222}R^{1461} + 1081P^3Q^{222}R^{1460} + 1337P^6Q^{222}R^{1459} + 1101P^9Q^{222}R^{1458} + 888PQ^{223}R^{1460} + \\
& 1898P^4Q^{223}R^{1459} + 1394P^7Q^{223}R^{1458} + 1384P^{10}Q^{223}R^{1457} + 1804P^2Q^{224}R^{1459} + \\
& 1442P^5Q^{224}R^{1458} + 2391P^8Q^{224}R^{1457} + 249Q^{225}R^{1459} + 255P^3Q^{225}R^{1458} + 1689P^6Q^{225}R^{1457} + \\
& 127P^9Q^{225}R^{1456} + 19PQ^{226}R^{1458} + 2308P^4Q^{226}R^{1457} + 1528P^7Q^{226}R^{1456} + 813P^{10}Q^{226}R^{1455} + \\
& 1826P^2Q^{227}R^{1457} + 657P^5Q^{227}R^{1456} + 199P^8Q^{227}R^{1455} + 1541Q^{228}R^{1457} + 764P^3Q^{228}R^{1456} + \\
& 708P^6Q^{228}R^{1455} + 1683P^9Q^{228}R^{1454} + 1637PQ^{229}R^{1456} + 1588P^4Q^{229}R^{1455} + 400P^7Q^{229}R^{1454} + \\
& 1300P^{10}Q^{229}R^{1453} + 2058P^2Q^{230}R^{1455} + 455P^5Q^{230}R^{1454} + 1941P^8Q^{230}R^{1453} + \\
& 2361Q^{231}R^{1455} + 1795P^3Q^{231}R^{1454} + 2054P^6Q^{231}R^{1453} + 1765P^9Q^{231}R^{1452} + 1524PQ^{232}R^{1454} + \\
& 2287P^4Q^{232}R^{1453} + 2093P^7Q^{232}R^{1452} + 2237P^{10}Q^{232}R^{1451} + 1828P^2Q^{233}R^{1453} + \\
& 2277P^5Q^{233}R^{1452} + 811P^8Q^{233}R^{1451} + 712Q^{234}R^{1453} + 2172P^3Q^{234}R^{1452} + 2281P^6Q^{234}R^{1451} + \\
& 2065P^9Q^{234}R^{1450} + 1485PQ^{235}R^{1452} + 1921P^4Q^{235}R^{1451} + 2355P^7Q^{235}R^{1450} + \\
& 1565P^{10}Q^{235}R^{1449} + 56P^2Q^{236}R^{1451} + 744P^5Q^{236}R^{1450} + 196P^8Q^{236}R^{1449} + 905Q^{237}R^{1451} + \\
& 1792P^3Q^{237}R^{1450} + 1951P^6Q^{237}R^{1449} + 794P^9Q^{237}R^{1448} + 1215PQ^{238}R^{1450} + 1745P^4Q^{238}R^{1449} + \\
& 1116P^7Q^{238}R^{1448} + 509P^{10}Q^{238}R^{1447} + 1753P^2Q^{239}R^{1449} + 1954P^5Q^{239}R^{1448} + \\
& 1477P^8Q^{239}R^{1447} + 117Q^{240}R^{1449} + 132P^3Q^{240}R^{1448} + 2214P^6Q^{240}R^{1447} + 467P^9Q^{240}R^{1446} + \\
& 297PQ^{241}R^{1448} + 550P^4Q^{241}R^{1447} + 1904P^7Q^{241}R^{1446} + 681P^{10}Q^{241}R^{1445} + 2059P^2Q^{242}R^{1447} + \\
& 704P^5Q^{242}R^{1446} + 640P^8Q^{242}R^{1445} + 1833Q^{243}R^{1447} + 1732P^3Q^{243}R^{1446} + 802P^6Q^{243}R^{1445} + \\
& 1397P^9Q^{243}R^{1444} + 345PQ^{244}R^{1446} + 1875P^4Q^{244}R^{1445} + 1590P^7Q^{244}R^{1444} + 975P^{10}Q^{244}R^{1443} + \\
& 1682P^2Q^{245}R^{1445} + 1317P^5Q^{245}R^{1444} + 1841P^8Q^{245}R^{1443} + 373Q^{246}R^{1445} + 622P^3Q^{246}R^{1444} + \\
& 1022P^6Q^{246}R^{1443} + 1934P^9Q^{246}R^{1442} + 109PQ^{247}R^{1444} + 2078P^4Q^{247}R^{1443} + 1254P^7Q^{247}R^{1442} + \\
& 770P^{10}Q^{247}R^{1441} + 1444P^2Q^{248}R^{1443} + 345P^5Q^{248}R^{1442} + 3P^8Q^{248}R^{1441} + 1529Q^{249}R^{1443} + \\
& 257P^3Q^{249}R^{1442} + 1864P^6Q^{249}R^{1441} + 1110P^9Q^{249}R^{1440} + 1561PQ^{250}R^{1442} + 694P^4Q^{250}R^{1441} + \\
& 287P^7Q^{250}R^{1440} + 1083P^{10}Q^{250}R^{1439} + 1196P^2Q^{251}R^{1441} + 2255P^5Q^{251}R^{1440} + \\
& 1562P^8Q^{251}R^{1439} + 224Q^{252}R^{1441} + 1159P^3Q^{252}R^{1440} + 1649P^6Q^{252}R^{1439} + 1495P^9Q^{252}R^{1438} + \\
& 1530PQ^{253}R^{1440} + 1477P^4Q^{253}R^{1439} + 1918P^7Q^{253}R^{1438} + 532P^{10}Q^{253}R^{1437} +
\end{aligned}$$

$$\begin{aligned}
& 1567P^2Q^{254}R^{1439} + 2047P^5Q^{254}R^{1438} + 1932P^8Q^{254}R^{1437} + 1773Q^{255}R^{1439} + 2367P^3Q^{255}R^{1438} + \\
& 2223P^6Q^{255}R^{1437} + 1951P^9Q^{255}R^{1436} + 1844PQ^{256}R^{1438} + 314P^4Q^{256}R^{1437} + 531P^7Q^{256}R^{1436} + \\
& 2254P^{10}Q^{256}R^{1435} + 1523P^2Q^{257}R^{1437} + 2345P^5Q^{257}R^{1436} + 43P^8Q^{257}R^{1435} + 327Q^{258}R^{1437} + \\
& 285P^3Q^{258}R^{1436} + 158P^6Q^{258}R^{1435} + 1375P^9Q^{258}R^{1434} + 1790PQ^{259}R^{1436} + 1962P^4Q^{259}R^{1435} + \\
& 341P^7Q^{259}R^{1434} + 1988P^{10}Q^{259}R^{1433} + 1764P^2Q^{260}R^{1435} + 279P^5Q^{260}R^{1434} + \\
& 1956P^8Q^{260}R^{1433} + 1353Q^{261}R^{1435} + 1312P^3Q^{261}R^{1434} + 368P^6Q^{261}R^{1433} + 1493P^9Q^{261}R^{1432} + \\
& 224PQ^{262}R^{1434} + 648P^4Q^{262}R^{1433} + 1650P^7Q^{262}R^{1432} + 2264P^{10}Q^{262}R^{1431} + 1842P^2Q^{263}R^{1433} + \\
& 1515P^5Q^{263}R^{1432} + 949P^8Q^{263}R^{1431} + 1731Q^{264}R^{1433} + 2363P^3Q^{264}R^{1432} + 774P^6Q^{264}R^{1431} + \\
& 696P^9Q^{264}R^{1430} + 128PQ^{265}R^{1432} + 889P^4Q^{265}R^{1431} + 214P^7Q^{265}R^{1430} + 741P^{10}Q^{265}R^{1429} + \\
& 244P^2Q^{266}R^{1431} + 497P^5Q^{266}R^{1430} + 603P^8Q^{266}R^{1429} + 1176Q^{267}R^{1431} + 1694P^3Q^{267}R^{1430} + \\
& 639P^6Q^{267}R^{1429} + 1717P^9Q^{267}R^{1428} + 442PQ^{268}R^{1430} + 605P^4Q^{268}R^{1429} + 903P^7Q^{268}R^{1428} + \\
& 667P^{10}Q^{268}R^{1427} + 454P^2Q^{269}R^{1429} + 1038P^5Q^{269}R^{1428} + 1623P^8Q^{269}R^{1427} + 915Q^{270}R^{1429} + \\
& 2054P^3Q^{270}R^{1428} + 478P^6Q^{270}R^{1427} + 752P^9Q^{270}R^{1426} + 437PQ^{271}R^{1428} + 103P^4Q^{271}R^{1427} + \\
& 2016P^7Q^{271}R^{1426} + 2041P^{10}Q^{271}R^{1425} + 522P^2Q^{272}R^{1427} + 2066P^5Q^{272}R^{1426} + \\
& 368P^8Q^{272}R^{1425} + 289Q^{273}R^{1427} + 1312P^3Q^{273}R^{1426} + 33P^6Q^{273}R^{1425} + 2237P^9Q^{273}R^{1424} + \\
& 1755PQ^{274}R^{1426} + 567P^4Q^{274}R^{1425} + 1022P^7Q^{274}R^{1424} + 1034P^{10}Q^{274}R^{1423} + \\
& 1767P^2Q^{275}R^{1425} + 968P^5Q^{275}R^{1424} + 1282P^8Q^{275}R^{1423} + 1616Q^{276}R^{1425} + 1295P^3Q^{276}R^{1424} + \\
& 546P^6Q^{276}R^{1423} + 2283P^9Q^{276}R^{1422} + 712PQ^{277}R^{1424} + 840P^4Q^{277}R^{1423} + 929P^7Q^{277}R^{1422} + \\
& 1650P^{10}Q^{277}R^{1421} + 1500P^2Q^{278}R^{1423} + 274P^5Q^{278}R^{1422} + 1580P^8Q^{278}R^{1421} + 2102Q^{279}R^{1423} + \\
& 541P^3Q^{279}R^{1422} + 1917P^6Q^{279}R^{1421} + 379P^9Q^{279}R^{1420} + 414PQ^{280}R^{1422} + 343P^4Q^{280}R^{1421} + \\
& 496P^7Q^{280}R^{1420} + 810P^{10}Q^{280}R^{1419} + 918P^2Q^{281}R^{1421} + 1155P^5Q^{281}R^{1420} + 1572P^8Q^{281}R^{1419} + \\
& 1133Q^{282}R^{1421} + 2240P^3Q^{282}R^{1420} + 1528P^6Q^{282}R^{1419} + 1878P^9Q^{282}R^{1418} + 1808PQ^{283}R^{1420} + \\
& 618P^4Q^{283}R^{1419} + 1458P^7Q^{283}R^{1418} + 2135P^{10}Q^{283}R^{1417} + 2007P^2Q^{284}R^{1419} + \\
& 1936P^5Q^{284}R^{1418} + 483P^8Q^{284}R^{1417} + 124Q^{285}R^{1419} + 224P^3Q^{285}R^{1418} + 2119P^6Q^{285}R^{1417} + \\
& 1126P^9Q^{285}R^{1416} + 1559PQ^{286}R^{1418} + 1067P^4Q^{286}R^{1417} + 769P^7Q^{286}R^{1416} + 716P^{10}Q^{286}R^{1415} + \\
& 1166P^2Q^{287}R^{1417} + 1129P^5Q^{287}R^{1416} + 984P^8Q^{287}R^{1415} + 114Q^{288}R^{1417} + 602P^3Q^{288}R^{1416} + \\
& 1699P^6Q^{288}R^{1415} + 113P^9Q^{288}R^{1414} + 630PQ^{289}R^{1416} + 2177P^4Q^{289}R^{1415} + 87P^7Q^{289}R^{1414} + \\
& 767P^{10}Q^{289}R^{1413} + 827P^2Q^{290}R^{1415} + 39P^5Q^{290}R^{1414} + 521P^8Q^{290}R^{1413} + 422Q^{291}R^{1415} + \\
& 1785P^3Q^{291}R^{1414} + 85P^6Q^{291}R^{1413} + 1126P^9Q^{291}R^{1412} + 2087PQ^{292}R^{1414} + 1183P^4Q^{292}R^{1413} + \\
& 2040P^7Q^{292}R^{1412} + 585P^{10}Q^{292}R^{1411} + 2130P^2Q^{293}R^{1413} + 612P^5Q^{293}R^{1412} + \\
& 1058P^8Q^{293}R^{1411} + 644Q^{294}R^{1413} + 2009P^3Q^{294}R^{1412} + 2047P^6Q^{294}R^{1411} + 2386P^9Q^{294}R^{1410} + \\
& 991PQ^{295}R^{1412} + 1401P^4Q^{295}R^{1411} + 138P^7Q^{295}R^{1410} + 1861P^{10}Q^{295}R^{1409} + 2377P^2Q^{296}R^{1411} + \\
& 1246P^5Q^{296}R^{1410} + 90P^8Q^{296}R^{1409} + 1648Q^{297}R^{1411} + 2115P^3Q^{297}R^{1410} + 1056P^6Q^{297}R^{1409} + \\
& 678P^9Q^{297}R^{1408} + 519PQ^{298}R^{1410} + 2308P^4Q^{298}R^{1409} + 496P^7Q^{298}R^{1408} + 1640P^{10}Q^{298}R^{1407} + \\
& 2235P^2Q^{299}R^{1409} + 1014P^5Q^{299}R^{1408} + 1267P^8Q^{299}R^{1407} + 663Q^{300}R^{1409} + 1435P^3Q^{300}R^{1408} + \\
& 932P^6Q^{300}R^{1407} + 1062P^9Q^{300}R^{1406} + 1177PQ^{301}R^{1408} + 441P^4Q^{301}R^{1407} + 984P^7Q^{301}R^{1406} + \\
& 2315P^{10}Q^{301}R^{1405} + 231P^2Q^{302}R^{1407} + 1237P^5Q^{302}R^{1406} + 888P^8Q^{302}R^{1405} + 278Q^{303}R^{1407} + \\
& 883P^3Q^{303}R^{1406} + 1801P^6Q^{303}R^{1405} + 273P^9Q^{303}R^{1404} + 878PQ^{304}R^{1406} + 2034P^4Q^{304}R^{1405} + \\
& 129P^7Q^{304}R^{1404} + 1326P^{10}Q^{304}R^{1403} + 1803P^2Q^{305}R^{1405} + 2305P^5Q^{305}R^{1404} + \\
& 1708P^8Q^{305}R^{1403} + 1529Q^{306}R^{1405} + 1176P^3Q^{306}R^{1404} + 1141P^6Q^{306}R^{1403} + 138P^9Q^{306}R^{1402} + \\
& 724PQ^{307}R^{1404} + 247P^4Q^{307}R^{1403} + 2304P^7Q^{307}R^{1402} + 1375P^{10}Q^{307}R^{1401} + 1055P^2Q^{308}R^{1403} + \\
& 149P^5Q^{308}R^{1402} + 307P^8Q^{308}R^{1401} + 600Q^{309}R^{1403} + 1752P^3Q^{309}R^{1402} + 1804P^6Q^{309}R^{1401} + \\
& 954P^9Q^{309}R^{1400} + 1046PQ^{310}R^{1402} + 271P^4Q^{310}R^{1401} + 1733P^7Q^{310}R^{1400} + 1288P^{10}Q^{310}R^{1399} + \\
& 795P^2Q^{311}R^{1401} + 803P^5Q^{311}R^{1400} + 2363P^8Q^{311}R^{1399} + 747Q^{312}R^{1401} + 706P^3Q^{312}R^{1400} + \\
& 678P^6Q^{312}R^{1399} + 956P^9Q^{312}R^{1398} + 1604PQ^{313}R^{1400} + 2050P^4Q^{313}R^{1399} + 1994P^7Q^{313}R^{1398} + \\
& 2342P^{10}Q^{313}R^{1397} + 302P^2Q^{314}R^{1399} + 441P^5Q^{314}R^{1398} + 1720P^8Q^{314}R^{1397} + 40Q^{315}R^{1399} + \\
& 1764P^3Q^{315}R^{1398} + 1090P^6Q^{315}R^{1397} + 1404P^9Q^{315}R^{1396} + 640PQ^{316}R^{1398} + 1774P^4Q^{316}R^{1397} + \\
& 860P^7Q^{316}R^{1396} + 81P^{10}Q^{316}R^{1395} + 724P^2Q^{317}R^{1397} + 1695P^5Q^{317}R^{1396} + 1529P^8Q^{317}R^{1395} + \\
& 706Q^{318}R^{1397} + 2317P^3Q^{318}R^{1396} + 111P^6Q^{318}R^{1395} + 2296P^9Q^{318}R^{1394} + 1564PQ^{319}R^{1396} +
\end{aligned}$$

$$\begin{aligned}
& 574P^4Q^{319}R^{1395} + 732P^7Q^{319}R^{1394} + 1787P^{10}Q^{319}R^{1393} + 224P^2Q^{320}R^{1395} + 1346P^5Q^{320}R^{1394} + \\
& 268P^8Q^{320}R^{1393} + 565Q^{321}R^{1395} + 748P^3Q^{321}R^{1394} + 1223P^6Q^{321}R^{1393} + 1175P^9Q^{321}R^{1392} + \\
& 1847PQ^{322}R^{1394} + 2285P^4Q^{322}R^{1393} + 782P^7Q^{322}R^{1392} + 2094P^{10}Q^{322}R^{1391} + 260P^2Q^{323}R^{1393} + \\
& 1219P^5Q^{323}R^{1392} + 1311P^8Q^{323}R^{1391} + 314Q^{324}R^{1393} + 964P^3Q^{324}R^{1392} + 2187P^6Q^{324}R^{1391} + \\
& 1600P^9Q^{324}R^{1390} + 374PQ^{325}R^{1392} + 716P^4Q^{325}R^{1391} + 1399P^7Q^{325}R^{1390} + 1365P^{10}Q^{325}R^{1389} + \\
& 1074P^2Q^{326}R^{1391} + 1397P^5Q^{326}R^{1390} + 1458P^8Q^{326}R^{1389} + 290Q^{327}R^{1391} + 1775P^3Q^{327}R^{1390} + \\
& 1958P^6Q^{327}R^{1389} + 2409P^9Q^{327}R^{1388} + 707PQ^{328}R^{1390} + 639P^4Q^{328}R^{1389} + 2005P^7Q^{328}R^{1388} + \\
& 547P^{10}Q^{328}R^{1387} + 1203P^2Q^{329}R^{1389} + 290P^5Q^{329}R^{1388} + 2088P^8Q^{329}R^{1387} + 1302Q^{330}R^{1389} + \\
& 2073P^3Q^{330}R^{1388} + 719P^6Q^{330}R^{1387} + 629P^9Q^{330}R^{1386} + 16PQ^{331}R^{1388} + 43P^4Q^{331}R^{1387} + \\
& 227P^7Q^{331}R^{1386} + 421P^{10}Q^{331}R^{1385} + 1449P^2Q^{332}R^{1387} + 691P^5Q^{332}R^{1386} + 528P^8Q^{332}R^{1385} + \\
& 2381Q^{333}R^{1387} + 1072P^3Q^{333}R^{1386} + 1830P^6Q^{333}R^{1385} + 527P^9Q^{333}R^{1384} + 1504PQ^{334}R^{1386} + \\
& 2231P^4Q^{334}R^{1385} + 1022P^7Q^{334}R^{1384} + 668P^{10}Q^{334}R^{1383} + 1045P^2Q^{335}R^{1385} + \\
& 1669P^5Q^{335}R^{1384} + 1451P^8Q^{335}R^{1383} + 608Q^{336}R^{1385} + 535P^3Q^{336}R^{1384} + 897P^6Q^{336}R^{1383} + \\
& 2234P^9Q^{336}R^{1382} + 1617PQ^{337}R^{1384} + 2301P^4Q^{337}R^{1383} + 37P^7Q^{337}R^{1382} + 1681P^{10}Q^{337}R^{1381} + \\
& 2157P^2Q^{338}R^{1383} + 2281P^5Q^{338}R^{1382} + 1000P^8Q^{338}R^{1381} + 204Q^{339}R^{1383} + 1637P^3Q^{339}R^{1382} + \\
& 543P^6Q^{339}R^{1381} + 1900P^9Q^{339}R^{1380} + 1510PQ^{340}R^{1382} + 150P^4Q^{340}R^{1381} + 1316P^7Q^{340}R^{1380} + \\
& 1258P^{10}Q^{340}R^{1379} + 362P^2Q^{341}R^{1381} + 983P^5Q^{341}R^{1380} + 1191P^8Q^{341}R^{1379} + 1176Q^{342}R^{1381} + \\
& 2395P^3Q^{342}R^{1380} + 587P^6Q^{342}R^{1379} + 2243P^9Q^{342}R^{1378} + 765PQ^{343}R^{1380} + 252P^4Q^{343}R^{1379} + \\
& 2245P^7Q^{343}R^{1378} + 40P^{10}Q^{343}R^{1377} + 1927P^2Q^{344}R^{1379} + 598P^5Q^{344}R^{1378} + 2357P^8Q^{344}R^{1377} + \\
& 1728Q^{345}R^{1379} + 372P^3Q^{345}R^{1378} + 1945P^6Q^{345}R^{1377} + 1712P^9Q^{345}R^{1376} + 1234PQ^{346}R^{1378} + \\
& 1054P^4Q^{346}R^{1377} + 475P^7Q^{346}R^{1376} + 738P^{10}Q^{346}R^{1375} + 1937P^2Q^{347}R^{1377} + 787P^5Q^{347}R^{1376} + \\
& 2335P^8Q^{347}R^{1375} + 186Q^{348}R^{1377} + 2288P^3Q^{348}R^{1376} + 144P^6Q^{348}R^{1375} + 2152P^9Q^{348}R^{1374} + \\
& 942PQ^{349}R^{1376} + 1793P^4Q^{349}R^{1375} + 784P^7Q^{349}R^{1374} + 1001P^{10}Q^{349}R^{1373} + 74P^2Q^{350}R^{1375} + \\
& 529P^5Q^{350}R^{1374} + 1221P^8Q^{350}R^{1373} + 440Q^{351}R^{1375} + 1536P^3Q^{351}R^{1374} + 1750P^6Q^{351}R^{1373} + \\
& 698P^9Q^{351}R^{1372} + 2007PQ^{352}R^{1374} + 1084P^4Q^{352}R^{1373} + 531P^7Q^{352}R^{1372} + 685P^{10}Q^{352}R^{1371} + \\
& 518P^2Q^{353}R^{1373} + 1915P^5Q^{353}R^{1372} + 1624P^8Q^{353}R^{1371} + 1925Q^{354}R^{1373} + 1069P^3Q^{354}R^{1372} + \\
& 1248P^6Q^{354}R^{1371} + 513P^9Q^{354}R^{1370} + 1798PQ^{355}R^{1372} + 1425P^4Q^{355}R^{1371} + 502P^7Q^{355}R^{1370} + \\
& 119P^{10}Q^{355}R^{1369} + 1914P^2Q^{356}R^{1371} + 1754P^5Q^{356}R^{1370} + 1190P^8Q^{356}R^{1369} + \\
& 1732Q^{357}R^{1371} + 1057P^3Q^{357}R^{1370} + 392P^6Q^{357}R^{1369} + 2400P^9Q^{357}R^{1368} + 2247PQ^{358}R^{1370} + \\
& 1267P^4Q^{358}R^{1369} + 1652P^7Q^{358}R^{1368} + 70P^{10}Q^{358}R^{1367} + 1190P^2Q^{359}R^{1369} + 242P^5Q^{359}R^{1368} + \\
& 2342P^8Q^{359}R^{1367} + 2074Q^{360}R^{1369} + 680P^3Q^{360}R^{1368} + 1678P^6Q^{360}R^{1367} + 2155P^9Q^{360}R^{1366} + \\
& 786PQ^{361}R^{1368} + 1531P^4Q^{361}R^{1367} + 232P^7Q^{361}R^{1366} + 1706P^{10}Q^{361}R^{1365} + 163P^2Q^{362}R^{1367} + \\
& 982P^5Q^{362}R^{1366} + 303P^8Q^{362}R^{1365} + 1069Q^{363}R^{1367} + 5P^3Q^{363}R^{1366} + 1858P^6Q^{363}R^{1365} + \\
& 1530P^9Q^{363}R^{1364} + 524PQ^{364}R^{1366} + 425P^4Q^{364}R^{1365} + 1029P^7Q^{364}R^{1364} + 1198P^{10}Q^{364}R^{1363} + \\
& 2382P^2Q^{365}R^{1365} + 1764P^5Q^{365}R^{1364} + 1997P^8Q^{365}R^{1363} + 1932Q^{366}R^{1365} + 1275P^3Q^{366}R^{1364} + \\
& 412P^6Q^{366}R^{1363} + 1135P^9Q^{366}R^{1362} + 737PQ^{367}R^{1364} + 242P^4Q^{367}R^{1363} + 2183P^7Q^{367}R^{1362} + \\
& 1432P^{10}Q^{367}R^{1361} + 1431P^2Q^{368}R^{1363} + 1441P^5Q^{368}R^{1362} + 1305P^8Q^{368}R^{1361} + \\
& 248Q^{369}R^{1363} + 1118P^3Q^{369}R^{1362} + 358P^6Q^{369}R^{1361} + 2042P^9Q^{369}R^{1360} + 111PQ^{370}R^{1362} + \\
& 1343P^4Q^{370}R^{1361} + 914P^7Q^{370}R^{1360} + 1956P^{10}Q^{370}R^{1359} + 1079P^2Q^{371}R^{1361} + \\
& 1820P^5Q^{371}R^{1360} + 987P^8Q^{371}R^{1359} + 32Q^{372}R^{1361} + 2372P^3Q^{372}R^{1360} + 1618P^6Q^{372}R^{1359} + \\
& 2177P^9Q^{372}R^{1358} + 1721PQ^{373}R^{1360} + 117P^4Q^{373}R^{1359} + 934P^7Q^{373}R^{1358} + 1323P^{10}Q^{373}R^{1357} + \\
& 2095P^2Q^{374}R^{1359} + 1996P^5Q^{374}R^{1358} + 332P^8Q^{374}R^{1357} + 1919Q^{375}R^{1359} + 43P^3Q^{375}R^{1358} + \\
& 1542P^6Q^{375}R^{1357} + 1896P^9Q^{375}R^{1356} + 509PQ^{376}R^{1358} + 1852P^4Q^{376}R^{1357} + 739P^7Q^{376}R^{1356} + \\
& 2108P^{10}Q^{376}R^{1355} + 2268P^2Q^{377}R^{1357} + 843P^5Q^{377}R^{1356} + 2241P^8Q^{377}R^{1355} + 521Q^{378}R^{1357} + \\
& 2180P^3Q^{378}R^{1356} + 2051P^6Q^{378}R^{1355} + 59P^9Q^{378}R^{1354} + 1581PQ^{379}R^{1356} + 1443P^4Q^{379}R^{1355} + \\
& 875P^7Q^{379}R^{1354} + 1124P^{10}Q^{379}R^{1353} + 1810P^2Q^{380}R^{1355} + 1792P^5Q^{380}R^{1354} + \\
& 825P^8Q^{380}R^{1353} + 1748Q^{381}R^{1355} + 1954P^3Q^{381}R^{1354} + 2022P^6Q^{381}R^{1353} + 2125P^9Q^{381}R^{1352} + \\
& 1582PQ^{382}R^{1354} + 1780P^4Q^{382}R^{1353} + 985P^7Q^{382}R^{1352} + 305P^{10}Q^{382}R^{1351} + 19P^2Q^{383}R^{1353} + \\
& 1670P^5Q^{383}R^{1352} + 956P^8Q^{383}R^{1351} + 394Q^{384}R^{1353} + 1138P^3Q^{384}R^{1352} + 2071P^6Q^{384}R^{1351} +
\end{aligned}$$

$$\begin{aligned}
& 1494P^9Q^{384}R^{1350} + 872PQ^{385}R^{1352} + 79P^4Q^{385}R^{1351} + 830P^7Q^{385}R^{1350} + 268P^{10}Q^{385}R^{1349} + \\
& 665P^2Q^{386}R^{1351} + 2099P^5Q^{386}R^{1350} + 1651P^8Q^{386}R^{1349} + 2126Q^{387}R^{1351} + 1198P^3Q^{387}R^{1350} + \\
& 2165P^6Q^{387}R^{1349} + 609P^9Q^{387}R^{1348} + 827PQ^{388}R^{1350} + 2185P^4Q^{388}R^{1349} + 916P^7Q^{388}R^{1348} + \\
& 1966P^{10}Q^{388}R^{1347} + 150P^2Q^{389}R^{1349} + 1147P^5Q^{389}R^{1348} + 1725P^8Q^{389}R^{1347} + \\
& 1213Q^{390}R^{1349} + 1966P^3Q^{390}R^{1348} + 786P^6Q^{390}R^{1347} + 1750P^9Q^{390}R^{1346} + 1863PQ^{391}R^{1348} + \\
& 1426P^4Q^{391}R^{1347} + 923P^7Q^{391}R^{1346} + 2276P^{10}Q^{391}R^{1345} + 1393P^2Q^{392}R^{1347} + \\
& 2094P^5Q^{392}R^{1346} + 2216P^8Q^{392}R^{1345} + 770Q^{393}R^{1347} + 1747P^3Q^{393}R^{1346} + 2055P^6Q^{393}R^{1345} + \\
& 1648P^9Q^{393}R^{1344} + 946PQ^{394}R^{1346} + 1058P^4Q^{394}R^{1345} + 1616P^7Q^{394}R^{1344} + \\
& 1907P^{10}Q^{394}R^{1343} + 2220P^2Q^{395}R^{1345} + 1174P^5Q^{395}R^{1344} + 1774P^8Q^{395}R^{1343} + \\
& 1261Q^{396}R^{1345} + 1263P^3Q^{396}R^{1344} + 1929P^6Q^{396}R^{1343} + 1838P^9Q^{396}R^{1342} + 2084PQ^{397}R^{1344} + \\
& 2294P^4Q^{397}R^{1343} + 1622P^7Q^{397}R^{1342} + 679P^{10}Q^{397}R^{1341} + 2330P^2Q^{398}R^{1343} + \\
& 1321P^5Q^{398}R^{1342} + 609P^8Q^{398}R^{1341} + 2049Q^{399}R^{1343} + 2211P^3Q^{399}R^{1342} + 1710P^6Q^{399}R^{1341} + \\
& 851P^9Q^{399}R^{1340} + 787PQ^{400}R^{1342} + 1080P^4Q^{400}R^{1341} + 1808P^7Q^{400}R^{1340} + 2392P^{10}Q^{400}R^{1339} + \\
& 311P^2Q^{401}R^{1341} + 942P^5Q^{401}R^{1340} + 688P^8Q^{401}R^{1339} + 1965Q^{402}R^{1341} + 1852P^3Q^{402}R^{1340} + \\
& 306P^6Q^{402}R^{1339} + 505P^9Q^{402}R^{1338} + 1836PQ^{403}R^{1340} + 642P^4Q^{403}R^{1339} + 2269P^7Q^{403}R^{1338} + \\
& 614P^{10}Q^{403}R^{1337} + 1487P^2Q^{404}R^{1339} + 1354P^5Q^{404}R^{1338} + 1400P^8Q^{404}R^{1337} + \\
& 2214Q^{405}R^{1339} + 1518P^3Q^{405}R^{1338} + 2327P^6Q^{405}R^{1337} + 1097P^9Q^{405}R^{1336} + 397PQ^{406}R^{1338} + \\
& 2070P^4Q^{406}R^{1337} + 1645P^7Q^{406}R^{1336} + 1233P^{10}Q^{406}R^{1335} + 1661P^2Q^{407}R^{1337} + \\
& 2282P^5Q^{407}R^{1336} + 1999P^8Q^{407}R^{1335} + 321Q^{408}R^{1337} + 1388P^3Q^{408}R^{1336} + 630P^6Q^{408}R^{1335} + \\
& 451P^9Q^{408}R^{1334} + 1630PQ^{409}R^{1336} + 215P^4Q^{409}R^{1335} + 2342P^7Q^{409}R^{1334} + 2200P^{10}Q^{409}R^{1333} + \\
& 1461P^2Q^{410}R^{1335} + 285P^5Q^{410}R^{1334} + 960P^8Q^{410}R^{1333} + 873Q^{411}R^{1335} + 1516P^3Q^{411}R^{1334} + \\
& 2176P^6Q^{411}R^{1333} + 2309P^9Q^{411}R^{1332} + 1485PQ^{412}R^{1334} + 940P^4Q^{412}R^{1333} + 365P^7Q^{412}R^{1332} + \\
& 1615P^{10}Q^{412}R^{1331} + 188P^2Q^{413}R^{1333} + 1014P^5Q^{413}R^{1332} + 1146P^8Q^{413}R^{1331} + \\
& 35Q^{414}R^{1333} + 1896P^3Q^{414}R^{1332} + 509P^6Q^{414}R^{1331} + 1273P^9Q^{414}R^{1330} + 1592PQ^{415}R^{1332} + \\
& 266P^4Q^{415}R^{1331} + 754P^7Q^{415}R^{1330} + 2234P^{10}Q^{415}R^{1329} + 2011P^2Q^{416}R^{1331} + 887P^5Q^{416}R^{1330} + \\
& 54P^8Q^{416}R^{1329} + 314Q^{417}R^{1331} + 2147P^3Q^{417}R^{1330} + 186P^6Q^{417}R^{1329} + 1326P^9Q^{417}R^{1328} + \\
& 912PQ^{418}R^{1330} + 1963P^4Q^{418}R^{1329} + 243P^7Q^{418}R^{1328} + 1912P^{10}Q^{418}R^{1327} + 70P^2Q^{419}R^{1329} + \\
& 700P^5Q^{419}R^{1328} + 483P^8Q^{419}R^{1327} + 2175Q^{420}R^{1329} + 291P^3Q^{420}R^{1328} + 2010P^6Q^{420}R^{1327} + \\
& 1711P^9Q^{420}R^{1326} + 327PQ^{421}R^{1328} + 2162P^4Q^{421}R^{1327} + 943P^7Q^{421}R^{1326} + 1245P^{10}Q^{421}R^{1325} + \\
& 359P^2Q^{422}R^{1327} + 2261P^5Q^{422}R^{1326} + 1965P^8Q^{422}R^{1325} + 2185Q^{423}R^{1327} + 1117P^3Q^{423}R^{1326} + \\
& 2018P^6Q^{423}R^{1325} + 2175P^9Q^{423}R^{1324} + 836PQ^{424}R^{1326} + 2162P^4Q^{424}R^{1325} + 536P^7Q^{424}R^{1324} + \\
& 1178P^{10}Q^{424}R^{1323} + 1349P^2Q^{425}R^{1325} + 243P^5Q^{425}R^{1324} + 369P^8Q^{425}R^{1323} + 1995Q^{426}R^{1325} + \\
& 655P^3Q^{426}R^{1324} + 2207P^6Q^{426}R^{1323} + 1023P^9Q^{426}R^{1322} + 1943PQ^{427}R^{1324} + 1799P^4Q^{427}R^{1323} + \\
& 2372P^7Q^{427}R^{1322} + 566P^{10}Q^{427}R^{1321} + 1941P^2Q^{428}R^{1323} + 1451P^5Q^{428}R^{1322} + \\
& 1948P^8Q^{428}R^{1321} + 1270Q^{429}R^{1323} + 2070P^3Q^{429}R^{1322} + 313P^6Q^{429}R^{1321} + 126P^9Q^{429}R^{1320} + \\
& 50PQ^{430}R^{1322} + 1818P^4Q^{430}R^{1321} + 878P^7Q^{430}R^{1320} + 714P^{10}Q^{430}R^{1319} + 242P^2Q^{431}R^{1321} + \\
& 2316P^5Q^{431}R^{1320} + 2026P^8Q^{431}R^{1319} + 1078Q^{432}R^{1321} + 1032P^3Q^{432}R^{1320} + 1118P^6Q^{432}R^{1319} + \\
& 336P^9Q^{432}R^{1318} + 434PQ^{433}R^{1320} + 1205P^4Q^{433}R^{1319} + 1875P^7Q^{433}R^{1318} + 1337P^{10}Q^{433}R^{1317} + \\
& 1726P^2Q^{434}R^{1319} + 1392P^5Q^{434}R^{1318} + 1933P^8Q^{434}R^{1317} + 690Q^{435}R^{1319} + 2308P^3Q^{435}R^{1318} + \\
& 436P^6Q^{435}R^{1317} + 230P^9Q^{435}R^{1316} + 431PQ^{436}R^{1318} + 1043P^4Q^{436}R^{1317} + 1018P^7Q^{436}R^{1316} + \\
& 390P^{10}Q^{436}R^{1315} + 1832P^2Q^{437}R^{1317} + 2099P^5Q^{437}R^{1316} + 1709P^8Q^{437}R^{1315} + \\
& 121Q^{438}R^{1317} + 1803P^3Q^{438}R^{1316} + 1268P^6Q^{438}R^{1315} + 2098P^9Q^{438}R^{1314} + 2108PQ^{439}R^{1316} + \\
& 1997P^4Q^{439}R^{1315} + 1673P^7Q^{439}R^{1314} + 1080P^{10}Q^{439}R^{1313} + 373P^2Q^{440}R^{1315} + \\
& 1531P^5Q^{440}R^{1314} + 335P^8Q^{440}R^{1313} + 1373Q^{441}R^{1315} + 1669P^3Q^{441}R^{1314} + 1510P^6Q^{441}R^{1313} + \\
& 882P^9Q^{441}R^{1312} + 946PQ^{442}R^{1314} + 1708P^4Q^{442}R^{1313} + 140P^7Q^{442}R^{1312} + 962P^{10}Q^{442}R^{1311} + \\
& 661P^2Q^{443}R^{1313} + 1739P^5Q^{443}R^{1312} + 814P^8Q^{443}R^{1311} + 769Q^{444}R^{1313} + 1816P^3Q^{444}R^{1312} + \\
& 2281P^6Q^{444}R^{1311} + 1071P^9Q^{444}R^{1310} + 1497PQ^{445}R^{1312} + 620P^4Q^{445}R^{1311} + 1154P^7Q^{445}R^{1310} + \\
& 1995P^{10}Q^{445}R^{1309} + 771P^2Q^{446}R^{1311} + 1892P^5Q^{446}R^{1310} + 947P^8Q^{446}R^{1309} + 458Q^{447}R^{1311} + \\
& 1640P^3Q^{447}R^{1310} + 1077P^6Q^{447}R^{1309} + 805P^9Q^{447}R^{1308} + 1743PQ^{448}R^{1310} + 288P^4Q^{448}R^{1309} +
\end{aligned}$$

$$\begin{aligned}
& 625P^7Q^{448}R^{1308} + 2191P^{10}Q^{448}R^{1307} + 1517P^2Q^{449}R^{1309} + 1278P^5Q^{449}R^{1308} + \\
& 1800P^8Q^{449}R^{1307} + 1160Q^{450}R^{1309} + 2028P^3Q^{450}R^{1308} + 677P^6Q^{450}R^{1307} + 1369P^9Q^{450}R^{1306} + \\
& 555PQ^{451}R^{1308} + 1811P^4Q^{451}R^{1307} + 156P^7Q^{451}R^{1306} + 2049P^{10}Q^{451}R^{1305} + 1780P^2Q^{452}R^{1307} + \\
& 1652P^5Q^{452}R^{1306} + 794P^8Q^{452}R^{1305} + 636Q^{453}R^{1307} + 545P^3Q^{453}R^{1306} + 2069P^6Q^{453}R^{1305} + \\
& 1619P^9Q^{453}R^{1304} + 184PQ^{454}R^{1306} + 2088P^4Q^{454}R^{1305} + 321P^7Q^{454}R^{1304} + 2118P^{10}Q^{454}R^{1303} + \\
& 953P^2Q^{455}R^{1305} + 1257P^5Q^{455}R^{1304} + 2257P^8Q^{455}R^{1303} + 1305Q^{456}R^{1305} + 1629P^3Q^{456}R^{1304} + \\
& 1050P^6Q^{456}R^{1303} + 1757P^9Q^{456}R^{1302} + 684PQ^{457}R^{1304} + 806P^4Q^{457}R^{1303} + 2053P^7Q^{457}R^{1302} + \\
& 2023P^{10}Q^{457}R^{1301} + 1680P^2Q^{458}R^{1303} + 611P^5Q^{458}R^{1302} + 2397P^8Q^{458}R^{1301} + 1549Q^{459}R^{1303} + \\
& 428P^3Q^{459}R^{1302} + 329P^6Q^{459}R^{1301} + 752P^9Q^{459}R^{1300} + 2059PQ^{460}R^{1302} + 1341P^4Q^{460}R^{1301} + \\
& 1201P^7Q^{460}R^{1300} + 2223P^{10}Q^{460}R^{1299} + 1384P^2Q^{461}R^{1301} + 1149P^5Q^{461}R^{1300} + \\
& 119P^8Q^{461}R^{1299} + 928Q^{462}R^{1301} + 1946P^3Q^{462}R^{1300} + 1453P^6Q^{462}R^{1299} + 2064P^9Q^{462}R^{1298} + \\
& 1983PQ^{463}R^{1300} + 1891P^4Q^{463}R^{1299} + 1740P^7Q^{463}R^{1298} + 2141P^{10}Q^{463}R^{1297} + \\
& 2111P^2Q^{464}R^{1299} + 322P^5Q^{464}R^{1298} + 405P^8Q^{464}R^{1297} + 798Q^{465}R^{1299} + 2235P^3Q^{465}R^{1298} + \\
& 1958P^6Q^{465}R^{1297} + 2147P^9Q^{465}R^{1296} + 766PQ^{466}R^{1298} + 111P^4Q^{466}R^{1297} + 1497P^7Q^{466}R^{1296} + \\
& 708P^{10}Q^{466}R^{1295} + 76P^2Q^{467}R^{1297} + 203P^5Q^{467}R^{1296} + 1942P^8Q^{467}R^{1295} + 1579Q^{468}R^{1297} + \\
& 1809P^3Q^{468}R^{1296} + 330P^6Q^{468}R^{1295} + 317P^9Q^{468}R^{1294} + 486PQ^{469}R^{1296} + 1034P^4Q^{469}R^{1295} + \\
& 1920P^7Q^{469}R^{1294} + 1706P^{10}Q^{469}R^{1293} + 1756P^2Q^{470}R^{1295} + 1194P^5Q^{470}R^{1294} + \\
& 392P^8Q^{470}R^{1293} + 557Q^{471}R^{1295} + 770P^3Q^{471}R^{1294} + 1453P^6Q^{471}R^{1293} + 1828P^9Q^{471}R^{1292} + \\
& 1312PQ^{472}R^{1294} + 883P^4Q^{472}R^{1293} + 529P^7Q^{472}R^{1292} + 1603P^{10}Q^{472}R^{1291} + 1492P^2Q^{473}R^{1293} + \\
& 2148P^5Q^{473}R^{1292} + 244P^8Q^{473}R^{1291} + 1000Q^{474}R^{1293} + 1007P^3Q^{474}R^{1292} + 2343P^6Q^{474}R^{1291} + \\
& 496P^9Q^{474}R^{1290} + 774PQ^{475}R^{1292} + 1792P^4Q^{475}R^{1291} + 1155P^7Q^{475}R^{1290} + 726P^{10}Q^{475}R^{1289} + \\
& 1152P^2Q^{476}R^{1291} + 793P^5Q^{476}R^{1290} + 2346P^8Q^{476}R^{1289} + 2234Q^{477}R^{1291} + 14P^3Q^{477}R^{1290} + \\
& 1952P^6Q^{477}R^{1289} + 2384P^9Q^{477}R^{1288} + 388PQ^{478}R^{1290} + 961P^4Q^{478}R^{1289} + 176P^7Q^{478}R^{1288} + \\
& 1589P^{10}Q^{478}R^{1287} + 1523P^2Q^{479}R^{1289} + 2227P^5Q^{479}R^{1288} + 108P^8Q^{479}R^{1287} + \\
& 1726Q^{480}R^{1289} + 626P^3Q^{480}R^{1288} + 1127P^6Q^{480}R^{1287} + 98P^9Q^{480}R^{1286} + 48PQ^{481}R^{1288} + \\
& 1052P^4Q^{481}R^{1287} + 112P^7Q^{481}R^{1286} + 1427P^{10}Q^{481}R^{1285} + 1433P^2Q^{482}R^{1287} + \\
& 1235P^5Q^{482}R^{1286} + 395P^8Q^{482}R^{1285} + 1297Q^{483}R^{1287} + 969P^3Q^{483}R^{1286} + 646P^6Q^{483}R^{1285} + \\
& 585P^9Q^{483}R^{1284} + 1318PQ^{484}R^{1286} + 1234P^4Q^{484}R^{1285} + 1247P^7Q^{484}R^{1284} + 777P^{10}Q^{484}R^{1283} + \\
& 317P^2Q^{485}R^{1285} + 399P^5Q^{485}R^{1284} + 2200P^8Q^{485}R^{1283} + 602Q^{486}R^{1285} + 2329P^3Q^{486}R^{1284} + \\
& 349P^6Q^{486}R^{1283} + 19P^9Q^{486}R^{1282} + 2285PQ^{487}R^{1284} + 2084P^4Q^{487}R^{1283} + 2194P^7Q^{487}R^{1282} + \\
& 1124P^{10}Q^{487}R^{1281} + 1072P^2Q^{488}R^{1283} + 1348P^5Q^{488}R^{1282} + 2136P^8Q^{488}R^{1281} + 297Q^{489}R^{1283} + \\
& 826P^3Q^{489}R^{1282} + 1393P^6Q^{489}R^{1281} + 1391P^9Q^{489}R^{1280} + 754PQ^{490}R^{1282} + 1520P^4Q^{490}R^{1281} + \\
& 2066P^7Q^{490}R^{1280} + 1452P^{10}Q^{490}R^{1279} + 701P^2Q^{491}R^{1281} + 2143P^5Q^{491}R^{1280} + \\
& 2017P^8Q^{491}R^{1279} + 1538Q^{492}R^{1281} + 280P^3Q^{492}R^{1280} + 1471P^6Q^{492}R^{1279} + 1449P^9Q^{492}R^{1278} + \\
& 1108PQ^{493}R^{1280} + 2220P^4Q^{493}R^{1279} + 62P^7Q^{493}R^{1278} + 983P^{10}Q^{493}R^{1277} + 1424P^2Q^{494}R^{1279} + \\
& 1959P^5Q^{494}R^{1278} + 2091P^8Q^{494}R^{1277} + 2061Q^{495}R^{1279} + 995P^3Q^{495}R^{1278} + 566P^6Q^{495}R^{1277} + \\
& 133P^9Q^{495}R^{1276} + 2129PQ^{496}R^{1278} + 2322P^4Q^{496}R^{1277} + 385P^7Q^{496}R^{1276} + 976P^{10}Q^{496}R^{1275} + \\
& 352P^2Q^{497}R^{1277} + 1186P^5Q^{497}R^{1276} + 1129P^8Q^{497}R^{1275} + 2111Q^{498}R^{1277} + 1129P^3Q^{498}R^{1276} + \\
& 520P^6Q^{498}R^{1275} + 601P^9Q^{498}R^{1274} + 2043PQ^{499}R^{1276} + 2047P^4Q^{499}R^{1275} + 1269P^7Q^{499}R^{1274} + \\
& 102P^{10}Q^{499}R^{1273} + 1774P^2Q^{500}R^{1275} + 424P^5Q^{500}R^{1274} + 903P^8Q^{500}R^{1273} + 1229Q^{501}R^{1275} + \\
& 430P^3Q^{501}R^{1274} + 2291P^6Q^{501}R^{1273} + 2003P^9Q^{501}R^{1272} + 1674PQ^{502}R^{1274} + 16P^4Q^{502}R^{1273} + \\
& 386P^7Q^{502}R^{1272} + 971P^{10}Q^{502}R^{1271} + 188P^2Q^{503}R^{1273} + 2320P^5Q^{503}R^{1272} + 270P^8Q^{503}R^{1271} + \\
& 1320Q^{504}R^{1273} + 810P^3Q^{504}R^{1272} + 1887P^6Q^{504}R^{1271} + 2370P^9Q^{504}R^{1270} + 1659PQ^{505}R^{1272} + \\
& 1080P^4Q^{505}R^{1271} + 2082P^7Q^{505}R^{1270} + 2012P^{10}Q^{505}R^{1269} + 613P^2Q^{506}R^{1271} + \\
& 2311P^5Q^{506}R^{1270} + 986P^8Q^{506}R^{1269} + 2357Q^{507}R^{1271} + 1113P^3Q^{507}R^{1270} + 106P^6Q^{507}R^{1269} + \\
& 711P^9Q^{507}R^{1268} + 1554PQ^{508}R^{1270} + 2224P^4Q^{508}R^{1269} + 1624P^7Q^{508}R^{1268} + 723P^{10}Q^{508}R^{1267} + \\
& 344P^2Q^{509}R^{1269} + 1811P^5Q^{509}R^{1268} + 1083P^8Q^{509}R^{1267} + 2293Q^{510}R^{1269} + 1470P^3Q^{510}R^{1268} + \\
& 557P^6Q^{510}R^{1267} + 2253P^9Q^{510}R^{1266} + 1854PQ^{511}R^{1268} + 1977P^4Q^{511}R^{1267} + 501P^7Q^{511}R^{1266} + \\
& 1496P^{10}Q^{511}R^{1265} + 1463P^2Q^{512}R^{1267} + 1150P^5Q^{512}R^{1266} + 515P^8Q^{512}R^{1265} +
\end{aligned}$$

$$\begin{aligned}
& 162Q^{513}R^{1267} + 1169P^3Q^{513}R^{1266} + 1849P^6Q^{513}R^{1265} + 1511P^9Q^{513}R^{1264} + 2227PQ^{514}R^{1266} + \\
& 1335P^4Q^{514}R^{1265} + 1678P^7Q^{514}R^{1264} + 1799P^{10}Q^{514}R^{1263} + 543P^2Q^{515}R^{1265} + \\
& 889P^5Q^{515}R^{1264} + 2341P^8Q^{515}R^{1263} + 137Q^{516}R^{1265} + 1865P^3Q^{516}R^{1264} + 1833P^6Q^{516}R^{1263} + \\
& 1268P^9Q^{516}R^{1262} + 662PQ^{517}R^{1264} + 1512P^4Q^{517}R^{1263} + 1181P^7Q^{517}R^{1262} + 168P^{10}Q^{517}R^{1261} + \\
& 2299P^2Q^{518}R^{1263} + 2249P^5Q^{518}R^{1262} + 144P^8Q^{518}R^{1261} + 2012Q^{519}R^{1263} + 1982P^3Q^{519}R^{1262} + \\
& 497P^6Q^{519}R^{1261} + 71P^9Q^{519}R^{1260} + 1704PQ^{520}R^{1262} + 2209P^4Q^{520}R^{1261} + 78P^7Q^{520}R^{1260} + \\
& 533P^{10}Q^{520}R^{1259} + 2242P^2Q^{521}R^{1261} + 2278P^5Q^{521}R^{1260} + 170P^8Q^{521}R^{1259} + 124Q^{522}R^{1261} + \\
& 1634P^3Q^{522}R^{1260} + 964P^6Q^{522}R^{1259} + 2043P^9Q^{522}R^{1258} + 778PQ^{523}R^{1260} + 182P^4Q^{523}R^{1259} + \\
& 2075P^7Q^{523}R^{1258} + 2102P^{10}Q^{523}R^{1257} + 825P^2Q^{524}R^{1259} + 979P^5Q^{524}R^{1258} + 120P^8Q^{524}R^{1257} + \\
& 864Q^{525}R^{1259} + 1110P^3Q^{525}R^{1258} + 1150P^6Q^{525}R^{1257} + 229P^9Q^{525}R^{1256} + 1230PQ^{526}R^{1258} + \\
& 1249P^4Q^{526}R^{1257} + 1968P^7Q^{526}R^{1256} + 2005P^{10}Q^{526}R^{1255} + 2233P^2Q^{527}R^{1257} + \\
& 610P^5Q^{527}R^{1256} + 1351P^8Q^{527}R^{1255} + 464Q^{528}R^{1257} + 1715P^3Q^{528}R^{1256} + 1055P^6Q^{528}R^{1255} + \\
& 2056P^9Q^{528}R^{1254} + 1795PQ^{529}R^{1256} + 289P^4Q^{529}R^{1255} + 25P^7Q^{529}R^{1254} + 753P^{10}Q^{529}R^{1253} + \\
& 2383P^2Q^{530}R^{1255} + 2192P^5Q^{530}R^{1254} + 2163P^8Q^{530}R^{1253} + 237Q^{531}R^{1255} + 1597P^3Q^{531}R^{1254} + \\
& 1281P^6Q^{531}R^{1253} + 1869P^9Q^{531}R^{1252} + 1351PQ^{532}R^{1254} + 950P^4Q^{532}R^{1253} + 1057P^7Q^{532}R^{1252} + \\
& 1314P^{10}Q^{532}R^{1251} + 903P^2Q^{533}R^{1253} + 2086P^5Q^{533}R^{1252} + 1377P^8Q^{533}R^{1251} + 2102Q^{534}R^{1253} + \\
& 1695P^3Q^{534}R^{1252} + 1413P^6Q^{534}R^{1251} + 689P^9Q^{534}R^{1250} + 588PQ^{535}R^{1252} + 1750P^4Q^{535}R^{1251} + \\
& 1366P^7Q^{535}R^{1250} + 129P^{10}Q^{535}R^{1249} + 1234P^2Q^{536}R^{1251} + 2118P^5Q^{536}R^{1250} + \\
& 1470P^8Q^{536}R^{1249} + 1290Q^{537}R^{1251} + 1338P^3Q^{537}R^{1250} + 1692P^6Q^{537}R^{1249} + 134P^9Q^{537}R^{1248} + \\
& 1403PQ^{538}R^{1250} + 2352P^4Q^{538}R^{1249} + 1986P^7Q^{538}R^{1248} + 1200P^{10}Q^{538}R^{1247} + \\
& 2195P^2Q^{539}R^{1249} + 869P^5Q^{539}R^{1248} + 323P^8Q^{539}R^{1247} + 621Q^{540}R^{1249} + 680P^3Q^{540}R^{1248} + \\
& 616P^6Q^{540}R^{1247} + 921P^9Q^{540}R^{1246} + 865PQ^{541}R^{1248} + 834P^4Q^{541}R^{1247} + 245P^7Q^{541}R^{1246} + \\
& 1655P^{10}Q^{541}R^{1245} + 1947P^2Q^{542}R^{1247} + 847P^5Q^{542}R^{1246} + 243P^8Q^{542}R^{1245} + 1166Q^{543}R^{1247} + \\
& 1098P^3Q^{543}R^{1246} + 490P^6Q^{543}R^{1245} + 1276P^9Q^{543}R^{1244} + 1634PQ^{544}R^{1246} + 869P^4Q^{544}R^{1245} + \\
& 1033P^7Q^{544}R^{1244} + 2033P^{10}Q^{544}R^{1243} + 2018P^2Q^{545}R^{1245} + 2071P^5Q^{545}R^{1244} + \\
& 2133P^8Q^{545}R^{1243} + 2189Q^{546}R^{1245} + 323P^3Q^{546}R^{1244} + 1390P^6Q^{546}R^{1243} + 339P^9Q^{546}R^{1242} + \\
& 695PQ^{547}R^{1244} + 1468P^4Q^{547}R^{1243} + 2192P^7Q^{547}R^{1242} + 1574P^{10}Q^{547}R^{1241} + 79P^2Q^{548}R^{1243} + \\
& 564P^5Q^{548}R^{1242} + 557P^8Q^{548}R^{1241} + 308Q^{549}R^{1243} + 2132P^3Q^{549}R^{1242} + 627P^6Q^{549}R^{1241} + \\
& 2073P^9Q^{549}R^{1240} + 907PQ^{550}R^{1242} + 114P^4Q^{550}R^{1241} + 1793P^7Q^{550}R^{1240} + 505P^{10}Q^{550}R^{1239} + \\
& 881P^2Q^{551}R^{1241} + 1555P^5Q^{551}R^{1240} + 812P^8Q^{551}R^{1239} + 524Q^{552}R^{1241} + 1840P^3Q^{552}R^{1240} + \\
& 432P^6Q^{552}R^{1239} + 2297P^9Q^{552}R^{1238} + 1853PQ^{553}R^{1240} + 1211P^4Q^{553}R^{1239} + 1780P^7Q^{553}R^{1238} + \\
& 862P^{10}Q^{553}R^{1237} + 460P^2Q^{554}R^{1239} + 1738P^5Q^{554}R^{1238} + 1472P^8Q^{554}R^{1237} + 1768Q^{555}R^{1239} + \\
& 1874P^3Q^{555}R^{1238} + 1156P^6Q^{555}R^{1237} + 2034P^9Q^{555}R^{1236} + 582PQ^{556}R^{1238} + 2361P^4Q^{556}R^{1237} + \\
& 1701P^7Q^{556}R^{1236} + 1866P^{10}Q^{556}R^{1235} + 2365P^2Q^{557}R^{1237} + 271P^5Q^{557}R^{1236} + \\
& 130P^8Q^{557}R^{1235} + 1571Q^{558}R^{1237} + 1800P^3Q^{558}R^{1236} + 1293P^6Q^{558}R^{1235} + 2290P^9Q^{558}R^{1234} + \\
& 448PQ^{559}R^{1236} + 1535P^4Q^{559}R^{1235} + 157P^7Q^{559}R^{1234} + 2260P^{10}Q^{559}R^{1233} + 1353P^2Q^{560}R^{1235} + \\
& 916P^5Q^{560}R^{1234} + 1056P^8Q^{560}R^{1233} + 2387Q^{561}R^{1235} + 775P^3Q^{561}R^{1234} + 2057P^6Q^{561}R^{1233} + \\
& 1327P^9Q^{561}R^{1232} + 595PQ^{562}R^{1234} + 1070P^4Q^{562}R^{1233} + 950P^7Q^{562}R^{1232} + 194P^{10}Q^{562}R^{1231} + \\
& 2033P^2Q^{563}R^{1233} + 431P^5Q^{563}R^{1232} + 1335P^8Q^{563}R^{1231} + 2123Q^{564}R^{1233} + 1151P^3Q^{564}R^{1232} + \\
& 741P^6Q^{564}R^{1231} + 921P^9Q^{564}R^{1230} + 145PQ^{565}R^{1232} + 2152P^4Q^{565}R^{1231} + 1259P^7Q^{565}R^{1230} + \\
& 2346P^{10}Q^{565}R^{1229} + 476P^2Q^{566}R^{1231} + 507P^5Q^{566}R^{1230} + 1617P^8Q^{566}R^{1229} + 1321Q^{567}R^{1231} + \\
& 150P^3Q^{567}R^{1230} + 803P^6Q^{567}R^{1229} + 751P^9Q^{567}R^{1228} + 546PQ^{568}R^{1230} + 1755P^4Q^{568}R^{1229} + \\
& 1280P^7Q^{568}R^{1228} + 900P^{10}Q^{568}R^{1227} + 1953P^2Q^{569}R^{1229} + 1367P^5Q^{569}R^{1228} + \\
& 2407P^8Q^{569}R^{1227} + 682Q^{570}R^{1229} + 2348P^3Q^{570}R^{1228} + 402P^6Q^{570}R^{1227} + 1266P^9Q^{570}R^{1226} + \\
& 1862PQ^{571}R^{1228} + 506P^4Q^{571}R^{1227} + 1006P^7Q^{571}R^{1226} + 1151P^{10}Q^{571}R^{1225} + \\
& 1807P^2Q^{572}R^{1227} + 378P^5Q^{572}R^{1226} + 1240P^8Q^{572}R^{1225} + 378Q^{573}R^{1227} + 675P^3Q^{573}R^{1226} + \\
& 2262P^6Q^{573}R^{1225} + 1506P^9Q^{573}R^{1224} + 4PQ^{574}R^{1226} + 1717P^4Q^{574}R^{1225} + 2027P^7Q^{574}R^{1224} + \\
& 508P^{10}Q^{574}R^{1223} + 1336P^2Q^{575}R^{1225} + 318P^5Q^{575}R^{1224} + 1635P^8Q^{575}R^{1223} + \\
& 1312Q^{576}R^{1225} + 1957P^3Q^{576}R^{1224} + 766P^6Q^{576}R^{1223} + 2120P^9Q^{576}R^{1222} + 1893PQ^{577}R^{1224} +
\end{aligned}$$

$$\begin{aligned}
& 1786P^4Q^{577}R^{1223} + 1439P^7Q^{577}R^{1222} + 1457P^{10}Q^{577}R^{1221} + 1320P^2Q^{578}R^{1223} + \\
& 1829P^5Q^{578}R^{1222} + 422P^8Q^{578}R^{1221} + 1585Q^{579}R^{1223} + 1337P^3Q^{579}R^{1222} + 2303P^6Q^{579}R^{1221} + \\
& 1567P^9Q^{579}R^{1220} + 1581PQ^{580}R^{1222} + 1661P^4Q^{580}R^{1221} + 892P^7Q^{580}R^{1220} + 518P^{10}Q^{580}R^{1219} + \\
& 478P^2Q^{581}R^{1221} + 1793P^5Q^{581}R^{1220} + 915P^8Q^{581}R^{1219} + 717Q^{582}R^{1221} + 1803P^3Q^{582}R^{1220} + \\
& 1531P^6Q^{582}R^{1219} + 550P^9Q^{582}R^{1218} + 1750PQ^{583}R^{1220} + 1787P^4Q^{583}R^{1219} + 1852P^7Q^{583}R^{1218} + \\
& 280P^{10}Q^{583}R^{1217} + 1805P^2Q^{584}R^{1219} + 1095P^5Q^{584}R^{1218} + 1173P^8Q^{584}R^{1217} + \\
& 13Q^{585}R^{1219} + 986P^3Q^{585}R^{1218} + 1139P^6Q^{585}R^{1217} + 893P^9Q^{585}R^{1216} + 705PQ^{586}R^{1218} + \\
& 2391P^4Q^{586}R^{1217} + 202P^7Q^{586}R^{1216} + 347P^{10}Q^{586}R^{1215} + 430P^2Q^{587}R^{1217} + 1988P^5Q^{587}R^{1216} + \\
& 599P^8Q^{587}R^{1215} + 1174Q^{588}R^{1217} + 1112P^3Q^{588}R^{1216} + 1351P^6Q^{588}R^{1215} + 706P^9Q^{588}R^{1214} + \\
& 106PQ^{589}R^{1216} + 847P^4Q^{589}R^{1215} + 1360P^7Q^{589}R^{1214} + 1092P^{10}Q^{589}R^{1213} + 203P^2Q^{590}R^{1215} + \\
& 955P^5Q^{590}R^{1214} + 1565P^8Q^{590}R^{1213} + 1418Q^{591}R^{1215} + 1169P^3Q^{591}R^{1214} + 1842P^6Q^{591}R^{1213} + \\
& 1650P^9Q^{591}R^{1212} + 1461PQ^{592}R^{1214} + 1436P^4Q^{592}R^{1213} + 1060P^7Q^{592}R^{1212} + \\
& 768P^{10}Q^{592}R^{1211} + 2275P^2Q^{593}R^{1213} + 384P^5Q^{593}R^{1212} + 2105P^8Q^{593}R^{1211} + 1180Q^{594}R^{1213} + \\
& 452P^3Q^{594}R^{1212} + 2181P^6Q^{594}R^{1211} + 560P^9Q^{594}R^{1210} + 692PQ^{595}R^{1212} + 800P^4Q^{595}R^{1211} + \\
& 2062P^7Q^{595}R^{1210} + 1655P^{10}Q^{595}R^{1209} + 1736P^2Q^{596}R^{1211} + 2201P^5Q^{596}R^{1210} + \\
& 923P^8Q^{596}R^{1209} + 1605Q^{597}R^{1211} + 1350P^3Q^{597}R^{1210} + 1077P^6Q^{597}R^{1209} + 1716P^9Q^{597}R^{1208} + \\
& 1266PQ^{598}R^{1210} + 1852P^4Q^{598}R^{1209} + 808P^7Q^{598}R^{1208} + 1612P^{10}Q^{598}R^{1207} + \\
& 1883P^2Q^{599}R^{1209} + 1723P^5Q^{599}R^{1208} + 1678P^8Q^{599}R^{1207} + 1204Q^{600}R^{1209} + 645P^3Q^{600}R^{1208} + \\
& 472P^6Q^{600}R^{1207} + 651P^9Q^{600}R^{1206} + 1979PQ^{601}R^{1208} + 2353P^4Q^{601}R^{1207} + 624P^7Q^{601}R^{1206} + \\
& 2324P^{10}Q^{601}R^{1205} + 656P^2Q^{602}R^{1207} + 31P^5Q^{602}R^{1206} + 1541P^8Q^{602}R^{1205} + 1669Q^{603}R^{1207} + \\
& 627P^3Q^{603}R^{1206} + 1183P^6Q^{603}R^{1205} + 1999P^9Q^{603}R^{1204} + 514PQ^{604}R^{1206} + 469P^4Q^{604}R^{1205} + \\
& 1964P^7Q^{604}R^{1204} + 1312P^{10}Q^{604}R^{1203} + 2060P^2Q^{605}R^{1205} + 1121P^5Q^{605}R^{1204} + \\
& 2384P^8Q^{605}R^{1203} + 1216Q^{606}R^{1205} + 1906P^3Q^{606}R^{1204} + 203P^6Q^{606}R^{1203} + 556P^9Q^{606}R^{1202} + \\
& 1375PQ^{607}R^{1204} + 1247P^4Q^{607}R^{1203} + 2093P^7Q^{607}R^{1202} + 1474P^{10}Q^{607}R^{1201} + \\
& 1989P^2Q^{608}R^{1203} + 1812P^5Q^{608}R^{1202} + 2108P^8Q^{608}R^{1201} + 766Q^{609}R^{1203} + 1316P^3Q^{609}R^{1202} + \\
& 959P^6Q^{609}R^{1201} + 1782P^9Q^{609}R^{1200} + 138PQ^{610}R^{1202} + 2313P^4Q^{610}R^{1201} + 235P^7Q^{610}R^{1200} + \\
& 353P^{10}Q^{610}R^{1199} + 1918P^2Q^{611}R^{1201} + 2276P^5Q^{611}R^{1200} + 2356P^8Q^{611}R^{1199} + \\
& 2392Q^{612}R^{1201} + 1889P^3Q^{612}R^{1200} + 2201P^6Q^{612}R^{1199} + 1100P^9Q^{612}R^{1198} + 1325PQ^{613}R^{1200} + \\
& 2215P^4Q^{613}R^{1199} + 297P^7Q^{613}R^{1198} + 245P^{10}Q^{613}R^{1197} + 4P^2Q^{614}R^{1199} + 1028P^5Q^{614}R^{1198} + \\
& 1038P^8Q^{614}R^{1197} + 1291Q^{615}R^{1199} + 846P^3Q^{615}R^{1198} + 781P^6Q^{615}R^{1197} + 1347P^9Q^{615}R^{1196} + \\
& 750PQ^{616}R^{1198} + 7P^4Q^{616}R^{1197} + 2247P^7Q^{616}R^{1196} + 1080P^{10}Q^{616}R^{1195} + 838P^2Q^{617}R^{1197} + \\
& 857P^5Q^{617}R^{1196} + 1215P^8Q^{617}R^{1195} + 655Q^{618}R^{1197} + 2275P^3Q^{618}R^{1196} + 1493P^6Q^{618}R^{1195} + \\
& 1991P^9Q^{618}R^{1194} + 2115PQ^{619}R^{1196} + 1965P^4Q^{619}R^{1195} + 392P^7Q^{619}R^{1194} + 113P^{10}Q^{619}R^{1193} + \\
& 1006P^2Q^{620}R^{1195} + 749P^5Q^{620}R^{1194} + 1286P^8Q^{620}R^{1193} + 2080Q^{621}R^{1195} + 1845P^3Q^{621}R^{1194} + \\
& 1071P^6Q^{621}R^{1193} + 1109P^9Q^{621}R^{1192} + 338PQ^{622}R^{1194} + 1946P^4Q^{622}R^{1193} + 2152P^7Q^{622}R^{1192} + \\
& 1283P^{10}Q^{622}R^{1191} + 2359P^2Q^{623}R^{1193} + 1953P^5Q^{623}R^{1192} + 1683P^8Q^{623}R^{1191} + \\
& 630Q^{624}R^{1193} + 2394P^3Q^{624}R^{1192} + 287P^6Q^{624}R^{1191} + 520P^9Q^{624}R^{1190} + 334PQ^{625}R^{1192} + \\
& 1881P^4Q^{625}R^{1191} + 1766P^7Q^{625}R^{1190} + 1558P^{10}Q^{625}R^{1189} + 1002P^2Q^{626}R^{1191} + \\
& 715P^5Q^{626}R^{1190} + 570P^8Q^{626}R^{1189} + 2149Q^{627}R^{1191} + 314P^3Q^{627}R^{1190} + 2031P^6Q^{627}R^{1189} + \\
& 2363P^9Q^{627}R^{1188} + 1535PQ^{628}R^{1190} + 55P^4Q^{628}R^{1189} + 253P^7Q^{628}R^{1188} + 1837P^{10}Q^{628}R^{1187} + \\
& 2055P^2Q^{629}R^{1189} + 1347P^5Q^{629}R^{1188} + 411P^8Q^{629}R^{1187} + 927Q^{630}R^{1189} + 284P^3Q^{630}R^{1188} + \\
& 2222P^6Q^{630}R^{1187} + 1319P^9Q^{630}R^{1186} + 1437PQ^{631}R^{1188} + 1137P^4Q^{631}R^{1187} + 434P^7Q^{631}R^{1186} + \\
& 664P^{10}Q^{631}R^{1185} + 1533P^2Q^{632}R^{1187} + 535P^5Q^{632}R^{1186} + 1536P^8Q^{632}R^{1185} + 2241Q^{633}R^{1187} + \\
& 2243P^3Q^{633}R^{1186} + 1597P^6Q^{633}R^{1185} + 150P^9Q^{633}R^{1184} + 1574PQ^{634}R^{1186} + 1056P^4Q^{634}R^{1185} + \\
& 1362P^7Q^{634}R^{1184} + 616P^{10}Q^{634}R^{1183} + 2386P^2Q^{635}R^{1185} + 404P^5Q^{635}R^{1184} + 869P^8Q^{635}R^{1183} + \\
& 1224Q^{636}R^{1185} + 961P^3Q^{636}R^{1184} + 1076P^6Q^{636}R^{1183} + 1780P^9Q^{636}R^{1182} + 554PQ^{637}R^{1184} + \\
& 1528P^4Q^{637}R^{1183} + 524P^7Q^{637}R^{1182} + 620P^{10}Q^{637}R^{1181} + 147P^2Q^{638}R^{1183} + 1620P^5Q^{638}R^{1182} + \\
& 2012P^8Q^{638}R^{1181} + 1234Q^{639}R^{1183} + 1353P^3Q^{639}R^{1182} + 334P^6Q^{639}R^{1181} + 818P^9Q^{639}R^{1180} + \\
& 1321PQ^{640}R^{1182} + 1248P^4Q^{640}R^{1181} + 57P^7Q^{640}R^{1180} + 245P^{10}Q^{640}R^{1179} + 890P^2Q^{641}R^{1181} +
\end{aligned}$$



$$\begin{aligned}
& 16P^5Q^{641}R^{1180} + 1697P^8Q^{641}R^{1179} + 1928Q^{642}R^{1181} + 2104P^3Q^{642}R^{1180} + 2046P^6Q^{642}R^{1179} + \\
& 1786P^9Q^{642}R^{1178} + 1625PQ^{643}R^{1180} + 302P^4Q^{643}R^{1179} + 2237P^7Q^{643}R^{1178} + 283P^{10}Q^{643}R^{1177} + \\
& 1457P^2Q^{644}R^{1179} + 1135P^5Q^{644}R^{1178} + 921P^8Q^{644}R^{1177} + 1753Q^{645}R^{1179} + 540P^3Q^{645}R^{1178} + \\
& 1552P^6Q^{645}R^{1177} + 2280P^9Q^{645}R^{1176} + 2316PQ^{646}R^{1178} + 838P^4Q^{646}R^{1177} + 998P^7Q^{646}R^{1176} + \\
& 711P^{10}Q^{646}R^{1175} + 2153P^2Q^{647}R^{1177} + 1892P^5Q^{647}R^{1176} + 1322P^8Q^{647}R^{1175} + \\
& 2353Q^{648}R^{1177} + 2194P^3Q^{648}R^{1176} + 1400P^6Q^{648}R^{1175} + 420P^9Q^{648}R^{1174} + 749PQ^{649}R^{1176} + \\
& 2227P^4Q^{649}R^{1175} + 146P^7Q^{649}R^{1174} + 471P^{10}Q^{649}R^{1173} + 418P^2Q^{650}R^{1175} + 1071P^5Q^{650}R^{1174} + \\
& 1071P^8Q^{650}R^{1173} + 1119Q^{651}R^{1175} + 834P^3Q^{651}R^{1174} + 2012P^6Q^{651}R^{1173} + 1185P^9Q^{651}R^{1172} + \\
& 2084PQ^{652}R^{1174} + 933P^4Q^{652}R^{1173} + 64P^7Q^{652}R^{1172} + 1794P^{10}Q^{652}R^{1171} + 1505P^2Q^{653}R^{1173} + \\
& 615P^5Q^{653}R^{1172} + 807P^8Q^{653}R^{1171} + 189Q^{654}R^{1173} + 880P^3Q^{654}R^{1172} + 139P^6Q^{654}R^{1171} + \\
& 1094P^9Q^{654}R^{1170} + 1810PQ^{655}R^{1172} + 2408P^4Q^{655}R^{1171} + 91P^7Q^{655}R^{1170} + 2082P^{10}Q^{655}R^{1169} + \\
& 559P^2Q^{656}R^{1171} + 1663P^5Q^{656}R^{1170} + 196P^8Q^{656}R^{1169} + 1317Q^{657}R^{1171} + 858P^3Q^{657}R^{1170} + \\
& 2079P^6Q^{657}R^{1169} + 1613P^9Q^{657}R^{1168} + 1548PQ^{658}R^{1170} + 2005P^4Q^{658}R^{1169} + 991P^7Q^{658}R^{1168} + \\
& 2005P^{10}Q^{658}R^{1167} + 179P^2Q^{659}R^{1169} + 2376P^5Q^{659}R^{1168} + 2229P^8Q^{659}R^{1167} + 1289Q^{660}R^{1169} + \\
& 664P^3Q^{660}R^{1168} + 1157P^6Q^{660}R^{1167} + 1243P^9Q^{660}R^{1166} + 1293PQ^{661}R^{1168} + 53P^4Q^{661}R^{1167} + \\
& 921P^7Q^{661}R^{1166} + 1662P^{10}Q^{661}R^{1165} + 847P^2Q^{662}R^{1167} + 1831P^5Q^{662}R^{1166} + 489P^8Q^{662}R^{1165} + \\
& 1246Q^{663}R^{1167} + 277P^3Q^{663}R^{1166} + 570P^6Q^{663}R^{1165} + 37P^9Q^{663}R^{1164} + 1812PQ^{664}R^{1166} + \\
& 1969P^4Q^{664}R^{1165} + 97P^7Q^{664}R^{1164} + 881P^{10}Q^{664}R^{1163} + 2097P^2Q^{665}R^{1165} + 2096P^5Q^{665}R^{1164} + \\
& 448P^8Q^{665}R^{1163} + 330Q^{666}R^{1165} + 2172P^3Q^{666}R^{1164} + 1644P^6Q^{666}R^{1163} + 1730P^9Q^{666}R^{1162} + \\
& 2024PQ^{667}R^{1164} + 32P^4Q^{667}R^{1163} + 1222P^7Q^{667}R^{1162} + 1622P^{10}Q^{667}R^{1161} + 667P^2Q^{668}R^{1163} + \\
& 2018P^5Q^{668}R^{1162} + 1944P^8Q^{668}R^{1161} + 2060Q^{669}R^{1163} + 1642P^3Q^{669}R^{1162} + 2352P^6Q^{669}R^{1161} + \\
& 1903P^9Q^{669}R^{1160} + 1255PQ^{670}R^{1162} + 2339P^4Q^{670}R^{1161} + 1360P^7Q^{670}R^{1160} + \\
& 174P^{10}Q^{670}R^{1159} + 2342P^2Q^{671}R^{1161} + 1982P^5Q^{671}R^{1160} + 1774P^8Q^{671}R^{1159} + \\
& 447Q^{672}R^{1161} + 2199P^3Q^{672}R^{1160} + 519P^6Q^{672}R^{1159} + 1560P^9Q^{672}R^{1158} + 1817PQ^{673}R^{1160} + \\
& 2405P^4Q^{673}R^{1159} + 832P^7Q^{673}R^{1158} + 1002P^{10}Q^{673}R^{1157} + 198P^2Q^{674}R^{1159} + 314P^5Q^{674}R^{1158} + \\
& 2356P^8Q^{674}R^{1157} + 390Q^{675}R^{1159} + 1040P^3Q^{675}R^{1158} + 2305P^6Q^{675}R^{1157} + 277P^9Q^{675}R^{1156} + \\
& 232PQ^{676}R^{1158} + 2145P^4Q^{676}R^{1157} + 1229P^7Q^{676}R^{1156} + 1712P^{10}Q^{676}R^{1155} + 353P^2Q^{677}R^{1157} + \\
& 1808P^5Q^{677}R^{1156} + 1801P^8Q^{677}R^{1155} + 1386Q^{678}R^{1157} + 2095P^3Q^{678}R^{1156} + 724P^6Q^{678}R^{1155} + \\
& 2311P^9Q^{678}R^{1154} + 2165PQ^{679}R^{1156} + 484P^4Q^{679}R^{1155} + 163P^7Q^{679}R^{1154} + 823P^{10}Q^{679}R^{1153} + \\
& 2318P^2Q^{680}R^{1155} + 750P^5Q^{680}R^{1154} + 1396P^8Q^{680}R^{1153} + 573Q^{681}R^{1155} + 1055P^3Q^{681}R^{1154} + \\
& 1233P^6Q^{681}R^{1153} + 1748P^9Q^{681}R^{1152} + 2222PQ^{682}R^{1154} + 1691P^4Q^{682}R^{1153} + \\
& 1995P^7Q^{682}R^{1152} + 1196P^{10}Q^{682}R^{1151} + 1925P^2Q^{683}R^{1153} + 370P^5Q^{683}R^{1152} + \\
& 1655P^8Q^{683}R^{1151} + 698Q^{684}R^{1153} + 132P^3Q^{684}R^{1152} + 2048P^6Q^{684}R^{1151} + 2234P^9Q^{684}R^{1150} + \\
& 1283PQ^{685}R^{1152} + 1946P^4Q^{685}R^{1151} + 1660P^7Q^{685}R^{1150} + 983P^{10}Q^{685}R^{1149} + \\
& 877P^2Q^{686}R^{1151} + 1897P^5Q^{686}R^{1150} + 472P^8Q^{686}R^{1149} + 1686Q^{687}R^{1151} + 1447P^3Q^{687}R^{1150} + \\
& 1244P^6Q^{687}R^{1149} + 1573P^9Q^{687}R^{1148} + 142PQ^{688}R^{1150} + 864P^4Q^{688}R^{1149} + 1165P^7Q^{688}R^{1148} + \\
& 1399P^{10}Q^{688}R^{1147} + 2248P^2Q^{689}R^{1149} + 1468P^5Q^{689}R^{1148} + 2173P^8Q^{689}R^{1147} + \\
& 322Q^{690}R^{1149} + 766P^3Q^{690}R^{1148} + 2187P^6Q^{690}R^{1147} + 498P^9Q^{690}R^{1146} + 144PQ^{691}R^{1148} + \\
& 749P^4Q^{691}R^{1147} + 356P^7Q^{691}R^{1146} + 327P^{10}Q^{691}R^{1145} + 977P^2Q^{692}R^{1147} + 1901P^5Q^{692}R^{1146} + \\
& 2289P^8Q^{692}R^{1145} + 1798Q^{693}R^{1147} + 151P^3Q^{693}R^{1146} + 563P^6Q^{693}R^{1145} + 623P^9Q^{693}R^{1144} + \\
& 2089PQ^{694}R^{1146} + 63P^4Q^{694}R^{1145} + 1513P^7Q^{694}R^{1144} + 2117P^{10}Q^{694}R^{1143} + 195P^2Q^{695}R^{1145} + \\
& 1243P^5Q^{695}R^{1144} + 1210P^8Q^{695}R^{1143} + 1124Q^{696}R^{1145} + 64P^3Q^{696}R^{1144} + 478P^6Q^{696}R^{1143} + \\
& 1736P^9Q^{696}R^{1142} + 2218PQ^{697}R^{1144} + 800P^4Q^{697}R^{1143} + 776P^7Q^{697}R^{1142} + 1004P^{10}Q^{697}R^{1141} + \\
& 1054P^2Q^{698}R^{1143} + 1114P^5Q^{698}R^{1142} + 1213P^8Q^{698}R^{1141} + 1937Q^{699}R^{1143} + 745P^3Q^{699}R^{1142} + \\
& 1637P^6Q^{699}R^{1141} + 715P^9Q^{699}R^{1140} + 760PQ^{700}R^{1142} + 2264P^4Q^{700}R^{1141} + 535P^7Q^{700}R^{1140} + \\
& 1230P^{10}Q^{700}R^{1139} + 42P^2Q^{701}R^{1141} + 2065P^5Q^{701}R^{1140} + 1219P^8Q^{701}R^{1139} + 103Q^{702}R^{1141} + \\
& 1191P^3Q^{702}R^{1140} + 337P^6Q^{702}R^{1139} + 853P^9Q^{702}R^{1138} + 1470PQ^{703}R^{1140} + 2180P^4Q^{703}R^{1139} + \\
& 1772P^7Q^{703}R^{1138} + 2194P^{10}Q^{703}R^{1137} + 1457P^2Q^{704}R^{1139} + 1031P^5Q^{704}R^{1138} + \\
& 1463P^8Q^{704}R^{1137} + 1432Q^{705}R^{1139} + 792P^3Q^{705}R^{1138} + 1042P^6Q^{705}R^{1137} + 303P^9Q^{705}R^{1136} +
\end{aligned}$$

$$\begin{aligned}
& 1298PQ^{706}R^{1138} + 1173P^4Q^{706}R^{1137} + 1375P^7Q^{706}R^{1136} + 2260P^{10}Q^{706}R^{1135} + \\
& 2249P^2Q^{707}R^{1137} + 691P^5Q^{707}R^{1136} + 526P^8Q^{707}R^{1135} + 77Q^{708}R^{1137} + 1286P^3Q^{708}R^{1136} + \\
& 1644P^6Q^{708}R^{1135} + 1841P^9Q^{708}R^{1134} + 1699PQ^{709}R^{1136} + 2282P^4Q^{709}R^{1135} + 430P^7Q^{709}R^{1134} + \\
& 1624P^{10}Q^{709}R^{1133} + 1372P^2Q^{710}R^{1135} + 1355P^5Q^{710}R^{1134} + 1933P^8Q^{710}R^{1133} + \\
& 587Q^{711}R^{1135} + 1059P^3Q^{711}R^{1134} + 1637P^6Q^{711}R^{1133} + 86P^9Q^{711}R^{1132} + 376PQ^{712}R^{1134} + \\
& 329P^4Q^{712}R^{1133} + 490P^7Q^{712}R^{1132} + 2014P^{10}Q^{712}R^{1131} + 480P^2Q^{713}R^{1133} + 2104P^5Q^{713}R^{1132} + \\
& 957P^8Q^{713}R^{1131} + 1722Q^{714}R^{1133} + 2354P^3Q^{714}R^{1132} + 668P^6Q^{714}R^{1131} + 2374P^9Q^{714}R^{1130} + \\
& 868PQ^{715}R^{1132} + 724P^4Q^{715}R^{1131} + 642P^7Q^{715}R^{1130} + 1570P^{10}Q^{715}R^{1129} + 1708P^2Q^{716}R^{1131} + \\
& 1570P^5Q^{716}R^{1130} + 135P^8Q^{716}R^{1129} + 313Q^{717}R^{1131} + 1393P^3Q^{717}R^{1130} + 1948P^6Q^{717}R^{1129} + \\
& 225P^9Q^{717}R^{1128} + 1018PQ^{718}R^{1130} + 2045P^4Q^{718}R^{1129} + 1341P^7Q^{718}R^{1128} + 502P^{10}Q^{718}R^{1127} + \\
& 206P^2Q^{719}R^{1129} + 613P^5Q^{719}R^{1128} + 122P^8Q^{719}R^{1127} + 2373Q^{720}R^{1129} + 1969P^3Q^{720}R^{1128} + \\
& 1857P^6Q^{720}R^{1127} + 655P^9Q^{720}R^{1126} + 382PQ^{721}R^{1128} + 952P^4Q^{721}R^{1127} + 1072P^7Q^{721}R^{1126} + \\
& 802P^{10}Q^{721}R^{1125} + 2043P^2Q^{722}R^{1127} + 2330P^5Q^{722}R^{1126} + 1798P^8Q^{722}R^{1125} + 1191Q^{723}R^{1127} + \\
& 95P^3Q^{723}R^{1126} + 1822P^6Q^{723}R^{1125} + 1703P^9Q^{723}R^{1124} + 1481PQ^{724}R^{1126} + 2085P^4Q^{724}R^{1125} + \\
& 2019P^7Q^{724}R^{1124} + 1354P^{10}Q^{724}R^{1123} + 397P^2Q^{725}R^{1125} + 294P^5Q^{725}R^{1124} + \\
& 692P^8Q^{725}R^{1123} + 1262Q^{726}R^{1125} + 2155P^3Q^{726}R^{1124} + 1686P^6Q^{726}R^{1123} + 36P^9Q^{726}R^{1122} + \\
& 800PQ^{727}R^{1124} + 1782P^4Q^{727}R^{1123} + 97P^7Q^{727}R^{1122} + 587P^{10}Q^{727}R^{1121} + 1005P^2Q^{728}R^{1123} + \\
& 2035P^5Q^{728}R^{1122} + 1521P^8Q^{728}R^{1121} + 2251Q^{729}R^{1123} + 1148P^3Q^{729}R^{1122} + 1786P^6Q^{729}R^{1121} + \\
& 1090P^9Q^{729}R^{1120} + 752PQ^{730}R^{1122} + 1473P^4Q^{730}R^{1121} + 1284P^7Q^{730}R^{1120} + 260P^{10}Q^{730}R^{1119} + \\
& 1371P^2Q^{731}R^{1121} + 461P^5Q^{731}R^{1120} + 1407P^8Q^{731}R^{1119} + 1804Q^{732}R^{1121} + 1542P^3Q^{732}R^{1120} + \\
& 1538P^6Q^{732}R^{1119} + 1054P^9Q^{732}R^{1118} + 2076PQ^{733}R^{1120} + 1297P^4Q^{733}R^{1119} + \\
& 838P^7Q^{733}R^{1118} + 1094P^{10}Q^{733}R^{1117} + 1213P^2Q^{734}R^{1119} + 1357P^5Q^{734}R^{1118} + \\
& 799P^8Q^{734}R^{1117} + 891Q^{735}R^{1119} + 761P^3Q^{735}R^{1118} + 312P^6Q^{735}R^{1117} + 1671P^9Q^{735}R^{1116} + \\
& 1766PQ^{736}R^{1118} + 740P^4Q^{736}R^{1117} + 1535P^7Q^{736}R^{1116} + 1473P^{10}Q^{736}R^{1115} + 403P^2Q^{737}R^{1117} + \\
& 2409P^5Q^{737}R^{1116} + 1929P^8Q^{737}R^{1115} + 544Q^{738}R^{1117} + 378P^3Q^{738}R^{1116} + 2118P^6Q^{738}R^{1115} + \\
& 1028P^9Q^{738}R^{1114} + 1692PQ^{739}R^{1116} + 1938P^4Q^{739}R^{1115} + 814P^7Q^{739}R^{1114} + 45P^{10}Q^{739}R^{1113} + \\
& 1285P^2Q^{740}R^{1115} + 141P^5Q^{740}R^{1114} + 802P^8Q^{740}R^{1113} + 1073Q^{741}R^{1115} + 1418P^3Q^{741}R^{1114} + \\
& 1796P^6Q^{741}R^{1113} + 1354P^9Q^{741}R^{1112} + 949PQ^{742}R^{1114} + 2066P^4Q^{742}R^{1113} + 1124P^7Q^{742}R^{1112} + \\
& 2099P^{10}Q^{742}R^{1111} + 2386P^2Q^{743}R^{1113} + 1572P^5Q^{743}R^{1112} + 984P^8Q^{743}R^{1111} + 1947Q^{744}R^{1113} + \\
& 902P^3Q^{744}R^{1112} + 1777P^6Q^{744}R^{1111} + 2177P^9Q^{744}R^{1110} + 933PQ^{745}R^{1112} + 915P^4Q^{745}R^{1111} + \\
& 2056P^7Q^{745}R^{1110} + 748P^{10}Q^{745}R^{1109} + 579P^2Q^{746}R^{1111} + 1063P^5Q^{746}R^{1110} + 256P^8Q^{746}R^{1109} + \\
& 2172Q^{747}R^{1111} + 465P^3Q^{747}R^{1110} + 2211P^6Q^{747}R^{1109} + 445P^9Q^{747}R^{1108} + 513PQ^{748}R^{1110} + \\
& 989P^4Q^{748}R^{1109} + 1031P^7Q^{748}R^{1108} + 1406P^{10}Q^{748}R^{1107} + 1494P^2Q^{749}R^{1109} + \\
& 361P^5Q^{749}R^{1108} + 326P^8Q^{749}R^{1107} + 731Q^{750}R^{1109} + 1915P^3Q^{750}R^{1108} + 355P^6Q^{750}R^{1107} + \\
& 366P^9Q^{750}R^{1106} + 442PQ^{751}R^{1108} + 1343P^4Q^{751}R^{1107} + 206P^7Q^{751}R^{1106} + 235P^{10}Q^{751}R^{1105} + \\
& 1761P^2Q^{752}R^{1107} + 1551P^5Q^{752}R^{1106} + 2075P^8Q^{752}R^{1105} + 1907Q^{753}R^{1107} + 2388P^3Q^{753}R^{1106} + \\
& 1876P^6Q^{753}R^{1105} + 174P^9Q^{753}R^{1104} + 1816PQ^{754}R^{1106} + 2327P^4Q^{754}R^{1105} + 2396P^7Q^{754}R^{1104} + \\
& 1175P^{10}Q^{754}R^{1103} + 762P^2Q^{755}R^{1105} + 2285P^5Q^{755}R^{1104} + 211P^8Q^{755}R^{1103} + 577Q^{756}R^{1105} + \\
& 464P^3Q^{756}R^{1104} + 759P^6Q^{756}R^{1103} + 2294P^9Q^{756}R^{1102} + 1807PQ^{757}R^{1104} + 1878P^4Q^{757}R^{1103} + \\
& 511P^7Q^{757}R^{1102} + 452P^{10}Q^{757}R^{1101} + 1684P^2Q^{758}R^{1103} + 1844P^5Q^{758}R^{1102} + \\
& 2298P^8Q^{758}R^{1101} + 2255Q^{759}R^{1103} + 940P^3Q^{759}R^{1102} + 1728P^6Q^{759}R^{1101} + 2183P^9Q^{759}R^{1100} + \\
& 2355PQ^{760}R^{1102} + 1878P^4Q^{760}R^{1101} + 1870P^7Q^{760}R^{1100} + 937P^{10}Q^{760}R^{1099} + 54P^2Q^{761}R^{1101} + \\
& 405P^5Q^{761}R^{1100} + 83P^8Q^{761}R^{1099} + 421Q^{762}R^{1101} + 2230P^3Q^{762}R^{1100} + 1006P^6Q^{762}R^{1099} + \\
& 709P^9Q^{762}R^{1098} + 1483PQ^{763}R^{1100} + 1467P^4Q^{763}R^{1099} + 637P^7Q^{763}R^{1098} + 1789P^{10}Q^{763}R^{1097} + \\
& 1016P^2Q^{764}R^{1099} + 1725P^5Q^{764}R^{1098} + 479P^8Q^{764}R^{1097} + 319Q^{765}R^{1099} + 139P^3Q^{765}R^{1098} + \\
& 2260P^6Q^{765}R^{1097} + 47P^9Q^{765}R^{1096} + 424PQ^{766}R^{1098} + 918P^4Q^{766}R^{1097} + 1191P^7Q^{766}R^{1096} + \\
& 1071P^{10}Q^{766}R^{1095} + 586P^2Q^{767}R^{1097} + 1395P^5Q^{767}R^{1096} + 2384P^8Q^{767}R^{1095} + 1464Q^{768}R^{1097} + \\
& 170P^3Q^{768}R^{1096} + 907P^6Q^{768}R^{1095} + 1318P^9Q^{768}R^{1094} + 2034PQ^{769}R^{1096} + 1858P^4Q^{769}R^{1095} + \\
& 1487P^7Q^{769}R^{1094} + 196P^{10}Q^{769}R^{1093} + 1678P^2Q^{770}R^{1095} + 1465P^5Q^{770}R^{1094} +
\end{aligned}$$

$$\begin{aligned}
& 1465P^8Q^{770}R^{1093} + 2255Q^{771}R^{1095} + 637P^3Q^{771}R^{1094} + 2021P^6Q^{771}R^{1093} + 1068P^9Q^{771}R^{1092} + \\
& 186PQ^{772}R^{1094} + 982P^4Q^{772}R^{1093} + 1635P^7Q^{772}R^{1092} + 749P^{10}Q^{772}R^{1091} + 1081P^2Q^{773}R^{1093} + \\
& 1515P^5Q^{773}R^{1092} + 1254P^8Q^{773}R^{1091} + 74Q^{774}R^{1093} + 1252P^3Q^{774}R^{1092} + 138P^6Q^{774}R^{1091} + \\
& 699P^9Q^{774}R^{1090} + 357PQ^{775}R^{1092} + 2276P^4Q^{775}R^{1091} + 430P^7Q^{775}R^{1090} + 2389P^{10}Q^{775}R^{1089} + \\
& 1574P^2Q^{776}R^{1091} + 140P^5Q^{776}R^{1090} + 808P^8Q^{776}R^{1089} + 507Q^{777}R^{1091} + 1166P^3Q^{777}R^{1090} + \\
& 700P^6Q^{777}R^{1089} + 708P^9Q^{777}R^{1088} + 2083PQ^{778}R^{1090} + 1089P^4Q^{778}R^{1089} + 781P^7Q^{778}R^{1088} + \\
& 1912P^{10}Q^{778}R^{1087} + 1617P^2Q^{779}R^{1089} + 1290P^5Q^{779}R^{1088} + 1965P^8Q^{779}R^{1087} + 910Q^{780}R^{1089} + \\
& 16P^3Q^{780}R^{1088} + 8P^6Q^{780}R^{1087} + 2002P^9Q^{780}R^{1086} + 900PQ^{781}R^{1088} + 2178P^4Q^{781}R^{1087} + \\
& 172P^7Q^{781}R^{1086} + 1808P^{10}Q^{781}R^{1085} + 1285P^2Q^{782}R^{1087} + 762P^5Q^{782}R^{1086} + 300P^8Q^{782}R^{1085} + \\
& 152Q^{783}R^{1087} + 389P^3Q^{783}R^{1086} + 2369P^6Q^{783}R^{1085} + 2077P^9Q^{783}R^{1084} + 1040PQ^{784}R^{1086} + \\
& 2181P^4Q^{784}R^{1085} + 263P^7Q^{784}R^{1084} + 1470P^{10}Q^{784}R^{1083} + 441P^2Q^{785}R^{1085} + \\
& 1244P^5Q^{785}R^{1084} + 650P^8Q^{785}R^{1083} + 396Q^{786}R^{1085} + 1051P^3Q^{786}R^{1084} + 925P^6Q^{786}R^{1083} + \\
& 883P^9Q^{786}R^{1082} + 28PQ^{787}R^{1084} + 440P^4Q^{787}R^{1083} + 1619P^7Q^{787}R^{1082} + 1971P^{10}Q^{787}R^{1081} + \\
& 319P^2Q^{788}R^{1083} + 1503P^5Q^{788}R^{1082} + 582P^8Q^{788}R^{1081} + 271Q^{789}R^{1083} + 557P^3Q^{789}R^{1082} + \\
& 545P^6Q^{789}R^{1081} + 410P^9Q^{789}R^{1080} + 706PQ^{790}R^{1082} + 266P^4Q^{790}R^{1081} + 1666P^7Q^{790}R^{1080} + \\
& 1918P^{10}Q^{790}R^{1079} + 673P^2Q^{791}R^{1081} + 401P^5Q^{791}R^{1080} + 752P^8Q^{791}R^{1079} + 345Q^{792}R^{1081} + \\
& 2102P^3Q^{792}R^{1080} + 2057P^6Q^{792}R^{1079} + 1375P^9Q^{792}R^{1078} + 1289PQ^{793}R^{1080} + \\
& 677P^4Q^{793}R^{1079} + 495P^7Q^{793}R^{1078} + 676P^{10}Q^{793}R^{1077} + 787P^2Q^{794}R^{1079} + 989P^5Q^{794}R^{1078} + \\
& 1857P^8Q^{794}R^{1077} + 2108Q^{795}R^{1079} + 94P^3Q^{795}R^{1078} + 1634P^6Q^{795}R^{1077} + 2317P^9Q^{795}R^{1076} + \\
& 1546PQ^{796}R^{1078} + 890P^4Q^{796}R^{1077} + 2363P^7Q^{796}R^{1076} + 1719P^{10}Q^{796}R^{1075} + 144P^2Q^{797}R^{1077} + \\
& 1722P^5Q^{797}R^{1076} + 1043P^8Q^{797}R^{1075} + 1173Q^{798}R^{1077} + 1543P^3Q^{798}R^{1076} + 1322P^6Q^{798}R^{1075} + \\
& 1974P^9Q^{798}R^{1074} + 609PQ^{799}R^{1076} + 536P^4Q^{799}R^{1075} + 784P^7Q^{799}R^{1074} + 1453P^{10}Q^{799}R^{1073} + \\
& 701P^2Q^{800}R^{1075} + 1699P^5Q^{800}R^{1074} + 548P^8Q^{800}R^{1073} + 711Q^{801}R^{1075} + 519P^3Q^{801}R^{1074} + \\
& 1300P^6Q^{801}R^{1073} + 1412P^9Q^{801}R^{1072} + 2062PQ^{802}R^{1074} + 221P^4Q^{802}R^{1073} + 638P^7Q^{802}R^{1072} + \\
& 1436P^{10}Q^{802}R^{1071} + 1167P^2Q^{803}R^{1073} + 320P^5Q^{803}R^{1072} + 404P^8Q^{803}R^{1071} + 1899Q^{804}R^{1073} + \\
& 630P^3Q^{804}R^{1072} + 250P^6Q^{804}R^{1071} + 1478P^9Q^{804}R^{1070} + 1069PQ^{805}R^{1072} + 1976P^4Q^{805}R^{1071} + \\
& 468P^7Q^{805}R^{1070} + 1476P^{10}Q^{805}R^{1069} + 3P^2Q^{806}R^{1071} + 1707P^5Q^{806}R^{1070} + 75P^8Q^{806}R^{1069} + \\
& 554Q^{807}R^{1071} + 1694P^3Q^{807}R^{1070} + 35P^6Q^{807}R^{1069} + 1506P^9Q^{807}R^{1068} + 433PQ^{808}R^{1070} + \\
& 989P^4Q^{808}R^{1069} + 40P^7Q^{808}R^{1068} + 558P^{10}Q^{808}R^{1067} + 510P^2Q^{809}R^{1069} + 111P^5Q^{809}R^{1068} + \\
& 479P^8Q^{809}R^{1067} + 722Q^{810}R^{1069} + 629P^3Q^{810}R^{1068} + 381P^6Q^{810}R^{1067} + 1403P^9Q^{810}R^{1066} + \\
& 1993PQ^{811}R^{1068} + 155P^4Q^{811}R^{1067} + 60P^7Q^{811}R^{1066} + 376P^{10}Q^{811}R^{1065} + 475P^2Q^{812}R^{1067} + \\
& 609P^5Q^{812}R^{1066} + 815P^8Q^{812}R^{1065} + 523Q^{813}R^{1067} + 1564P^3Q^{813}R^{1066} + 543P^6Q^{813}R^{1065} + \\
& 1497P^9Q^{813}R^{1064} + 510PQ^{814}R^{1066} + 1052P^4Q^{814}R^{1065} + 1732P^7Q^{814}R^{1064} + 919P^{10}Q^{814}R^{1063} + \\
& 1206P^2Q^{815}R^{1065} + 1047P^5Q^{815}R^{1064} + 365P^8Q^{815}R^{1063} + 1713Q^{816}R^{1065} + 1558P^3Q^{816}R^{1064} + \\
& 277P^6Q^{816}R^{1063} + 748P^9Q^{816}R^{1062} + 2192PQ^{817}R^{1064} + 1500P^4Q^{817}R^{1063} + 293P^7Q^{817}R^{1062} + \\
& 1652P^{10}Q^{817}R^{1061} + 333P^2Q^{818}R^{1063} + 1881P^5Q^{818}R^{1062} + 2061P^8Q^{818}R^{1061} + 198Q^{819}R^{1063} + \\
& 1202P^3Q^{819}R^{1062} + 1400P^6Q^{819}R^{1061} + 995P^9Q^{819}R^{1060} + 434PQ^{820}R^{1062} + 2332P^4Q^{820}R^{1061} + \\
& 1665P^7Q^{820}R^{1060} + 2121P^{10}Q^{820}R^{1059} + 1155P^2Q^{821}R^{1061} + 1497P^5Q^{821}R^{1060} + \\
& 2266P^8Q^{821}R^{1059} + 1119Q^{822}R^{1061} + 281P^3Q^{822}R^{1060} + 1481P^6Q^{822}R^{1059} + 2401P^9Q^{822}R^{1058} + \\
& 686PQ^{823}R^{1060} + 1402P^4Q^{823}R^{1059} + 462P^7Q^{823}R^{1058} + 2357P^{10}Q^{823}R^{1057} + 876P^2Q^{824}R^{1059} + \\
& 381P^5Q^{824}R^{1058} + 536P^8Q^{824}R^{1057} + 2254Q^{825}R^{1059} + 2279P^3Q^{825}R^{1058} + 416P^6Q^{825}R^{1057} + \\
& 2232P^9Q^{825}R^{1056} + 1053PQ^{826}R^{1058} + 224P^4Q^{826}R^{1057} + 1003P^7Q^{826}R^{1056} + 440P^{10}Q^{826}R^{1055} + \\
& 942P^2Q^{827}R^{1057} + 423P^5Q^{827}R^{1056} + 1481P^8Q^{827}R^{1055} + 1775Q^{828}R^{1057} + 57P^3Q^{828}R^{1056} + \\
& 1099P^6Q^{828}R^{1055} + 920P^9Q^{828}R^{1054} + 2350PQ^{829}R^{1056} + 1223P^4Q^{829}R^{1055} + 882P^7Q^{829}R^{1054} + \\
& 1519P^{10}Q^{829}R^{1053} + 469P^2Q^{830}R^{1055} + 1389P^5Q^{830}R^{1054} + 1099P^8Q^{830}R^{1053} + \\
& 2102Q^{831}R^{1055} + 2067P^3Q^{831}R^{1054} + 1204P^6Q^{831}R^{1053} + 1826P^9Q^{831}R^{1052} + 1219PQ^{832}R^{1054} + \\
& 103P^4Q^{832}R^{1053} + 189P^7Q^{832}R^{1052} + 629P^{10}Q^{832}R^{1051} + 1698P^2Q^{833}R^{1053} + 492P^5Q^{833}R^{1052} + \\
& 1161P^8Q^{833}R^{1051} + 247Q^{834}R^{1053} + 1850P^3Q^{834}R^{1052} + 1187P^6Q^{834}R^{1051} + 2210P^9Q^{834}R^{1050} + \\
& 1389PQ^{835}R^{1052} + 2381P^4Q^{835}R^{1051} + 1654P^7Q^{835}R^{1050} + 534P^{10}Q^{835}R^{1049} + 254P^2Q^{836}R^{1051} +
\end{aligned}$$

$$\begin{aligned}
& 974P^5Q^{836}R^{1050} + 1029P^8Q^{836}R^{1049} + 672Q^{837}R^{1051} + 2271P^3Q^{837}R^{1050} + 2217P^6Q^{837}R^{1049} + \\
& 347P^9Q^{837}R^{1048} + 1981PQ^{838}R^{1050} + 1253P^4Q^{838}R^{1049} + 111P^7Q^{838}R^{1048} + 2337P^{10}Q^{838}R^{1047} + \\
& 1960P^2Q^{839}R^{1049} + 259P^5Q^{839}R^{1048} + 124P^8Q^{839}R^{1047} + 2199Q^{840}R^{1049} + 1652P^3Q^{840}R^{1048} + \\
& 210P^6Q^{840}R^{1047} + 1782P^9Q^{840}R^{1046} + 276PQ^{841}R^{1048} + 1468P^4Q^{841}R^{1047} + 879P^7Q^{841}R^{1046} + \\
& 2210P^{10}Q^{841}R^{1045} + 1588P^2Q^{842}R^{1047} + 2070P^5Q^{842}R^{1046} + 1840P^8Q^{842}R^{1045} + 2043Q^{843}R^{1047} + \\
& 751P^3Q^{843}R^{1046} + 586P^6Q^{843}R^{1045} + 1354P^9Q^{843}R^{1044} + 2152PQ^{844}R^{1046} + 517P^4Q^{844}R^{1045} + \\
& 679P^7Q^{844}R^{1044} + 1922P^{10}Q^{844}R^{1043} + 143P^2Q^{845}R^{1045} + 1402P^5Q^{845}R^{1044} + 64P^8Q^{845}R^{1043} + \\
& 996Q^{846}R^{1045} + 1377P^3Q^{846}R^{1044} + 1737P^6Q^{846}R^{1043} + 1532P^9Q^{846}R^{1042} + 652PQ^{847}R^{1044} + \\
& 1682P^4Q^{847}R^{1043} + 1371P^7Q^{847}R^{1042} + 1241P^{10}Q^{847}R^{1041} + 2155P^2Q^{848}R^{1043} + \\
& 2402P^5Q^{848}R^{1042} + 39P^8Q^{848}R^{1041} + 322Q^{849}R^{1043} + 888P^3Q^{849}R^{1042} + 613P^6Q^{849}R^{1041} + \\
& 987P^9Q^{849}R^{1040} + 2371PQ^{850}R^{1042} + 58P^4Q^{850}R^{1041} + 1757P^7Q^{850}R^{1040} + 847P^{10}Q^{850}R^{1039} + \\
& 1654P^2Q^{851}R^{1041} + 1969P^5Q^{851}R^{1040} + 1776P^8Q^{851}R^{1039} + 668Q^{852}R^{1041} + 67P^3Q^{852}R^{1040} + \\
& 1533P^6Q^{852}R^{1039} + 434P^9Q^{852}R^{1038} + 1431PQ^{853}R^{1040} + 1163P^4Q^{853}R^{1039} + 1205P^7Q^{853}R^{1038} + \\
& 694P^{10}Q^{853}R^{1037} + 651P^2Q^{854}R^{1039} + 691P^5Q^{854}R^{1038} + 1542P^8Q^{854}R^{1037} + 2339Q^{855}R^{1039} + \\
& 769P^3Q^{855}R^{1038} + 1802P^6Q^{855}R^{1037} + 1033P^9Q^{855}R^{1036} + 1753PQ^{856}R^{1038} + 2346P^4Q^{856}R^{1037} + \\
& 1933P^7Q^{856}R^{1036} + 1917P^{10}Q^{856}R^{1035} + 1051P^2Q^{857}R^{1037} + 1888P^5Q^{857}R^{1036} + \\
& 2198P^8Q^{857}R^{1035} + 138Q^{858}R^{1037} + 1906P^3Q^{858}R^{1036} + 602P^6Q^{858}R^{1035} + 273P^9Q^{858}R^{1034} + \\
& 335PQ^{859}R^{1036} + 1017P^4Q^{859}R^{1035} + 2056P^7Q^{859}R^{1034} + 975P^{10}Q^{859}R^{1033} + 1515P^2Q^{860}R^{1035} + \\
& 807P^5Q^{860}R^{1034} + 1275P^8Q^{860}R^{1033} + 1087Q^{861}R^{1035} + 897P^3Q^{861}R^{1034} + 1263P^6Q^{861}R^{1033} + \\
& 363P^9Q^{861}R^{1032} + 271PQ^{862}R^{1034} + 1868P^4Q^{862}R^{1033} + 1991P^7Q^{862}R^{1032} + 455P^{10}Q^{862}R^{1031} + \\
& 1162P^2Q^{863}R^{1033} + 558P^5Q^{863}R^{1032} + 902P^8Q^{863}R^{1031} + 1110Q^{864}R^{1033} + 592P^3Q^{864}R^{1032} + \\
& 968P^6Q^{864}R^{1031} + 2004P^9Q^{864}R^{1030} + 1975PQ^{865}R^{1032} + 1079P^4Q^{865}R^{1031} + 1729P^7Q^{865}R^{1030} + \\
& 1226P^{10}Q^{865}R^{1029} + 965P^2Q^{866}R^{1031} + 2139P^5Q^{866}R^{1030} + 1915P^8Q^{866}R^{1029} + 2132Q^{867}R^{1031} + \\
& 1469P^3Q^{867}R^{1030} + 239P^6Q^{867}R^{1029} + 410P^9Q^{867}R^{1028} + 454PQ^{868}R^{1030} + 1737P^4Q^{868}R^{1029} + \\
& 1507P^7Q^{868}R^{1028} + 1724P^{10}Q^{868}R^{1027} + 1743P^2Q^{869}R^{1029} + 2395P^5Q^{869}R^{1028} + \\
& 1416P^8Q^{869}R^{1027} + 2214Q^{870}R^{1029} + 486P^3Q^{870}R^{1028} + 1350P^6Q^{870}R^{1027} + 1658P^9Q^{870}R^{1026} + \\
& 591PQ^{871}R^{1028} + 2149P^4Q^{871}R^{1027} + 1297P^7Q^{871}R^{1026} + 1783P^{10}Q^{871}R^{1025} + \\
& 1610P^2Q^{872}R^{1027} + 949P^5Q^{872}R^{1026} + 142P^8Q^{872}R^{1025} + 1419Q^{873}R^{1027} + 485P^3Q^{873}R^{1026} + \\
& 341P^6Q^{873}R^{1025} + 2133P^9Q^{873}R^{1024} + 468PQ^{874}R^{1026} + 289P^4Q^{874}R^{1025} + 861P^7Q^{874}R^{1024} + \\
& 2055P^{10}Q^{874}R^{1023} + 2011P^2Q^{875}R^{1025} + 739P^5Q^{875}R^{1024} + 830P^8Q^{875}R^{1023} + 2215Q^{876}R^{1025} + \\
& 732P^3Q^{876}R^{1024} + 1260P^6Q^{876}R^{1023} + 2066P^9Q^{876}R^{1022} + 2076PQ^{877}R^{1024} + 502P^4Q^{877}R^{1023} + \\
& 1117P^7Q^{877}R^{1022} + 985P^{10}Q^{877}R^{1021} + 1842P^2Q^{878}R^{1023} + 1548P^5Q^{878}R^{1022} + \\
& 1981P^8Q^{878}R^{1021} + 1593Q^{879}R^{1023} + 458P^3Q^{879}R^{1022} + 1770P^6Q^{879}R^{1021} + 1763P^9Q^{879}R^{1020} + \\
& 543PQ^{880}R^{1022} + 322P^4Q^{880}R^{1021} + 1238P^7Q^{880}R^{1020} + 2024P^{10}Q^{880}R^{1019} + 1172P^2Q^{881}R^{1021} + \\
& 1543P^5Q^{881}R^{1020} + 1485P^8Q^{881}R^{1019} + 2036Q^{882}R^{1021} + 1076P^3Q^{882}R^{1020} + 1000P^6Q^{882}R^{1019} + \\
& 880P^9Q^{882}R^{1018} + 2156PQ^{883}R^{1020} + 2118P^4Q^{883}R^{1019} + 1263P^7Q^{883}R^{1018} + 535P^{10}Q^{883}R^{1017} + \\
& 1907P^2Q^{884}R^{1019} + 896P^5Q^{884}R^{1018} + 1647P^8Q^{884}R^{1017} + 1783Q^{885}R^{1019} + 1953P^3Q^{885}R^{1018} + \\
& 1235P^6Q^{885}R^{1017} + 685P^9Q^{885}R^{1016} + 2175PQ^{886}R^{1018} + 1785P^4Q^{886}R^{1017} + 934P^7Q^{886}R^{1016} + \\
& 956P^{10}Q^{886}R^{1015} + 712P^2Q^{887}R^{1017} + 864P^5Q^{887}R^{1016} + 1330P^8Q^{887}R^{1015} + 1453Q^{888}R^{1017} + \\
& 703P^3Q^{888}R^{1016} + 1573P^6Q^{888}R^{1015} + 199P^9Q^{888}R^{1014} + 904PQ^{889}R^{1016} + 614P^4Q^{889}R^{1015} + \\
& 1229P^7Q^{889}R^{1014} + 2140P^{10}Q^{889}R^{1013} + 2091P^2Q^{890}R^{1015} + 1064P^5Q^{890}R^{1014} + \\
& 1331P^8Q^{890}R^{1013} + 931Q^{891}R^{1015} + 2092P^3Q^{891}R^{1014} + 2027P^6Q^{891}R^{1013} + 617P^9Q^{891}R^{1012} + \\
& 2041PQ^{892}R^{1014} + 425P^4Q^{892}R^{1013} + 639P^7Q^{892}R^{1012} + 1445P^{10}Q^{892}R^{1011} + 1446P^2Q^{893}R^{1013} + \\
& 1892P^5Q^{893}R^{1012} + 1240P^8Q^{893}R^{1011} + 1249Q^{894}R^{1013} + 621P^3Q^{894}R^{1012} + 2196P^6Q^{894}R^{1011} + \\
& 21P^9Q^{894}R^{1010} + 1212PQ^{895}R^{1012} + 1818P^4Q^{895}R^{1011} + 1801P^7Q^{895}R^{1010} + 797P^{10}Q^{895}R^{1009} + \\
& 1746P^2Q^{896}R^{1011} + 101P^5Q^{896}R^{1010} + 307P^8Q^{896}R^{1009} + 1452Q^{897}R^{1011} + 354P^3Q^{897}R^{1010} + \\
& 2376P^6Q^{897}R^{1009} + 1551P^9Q^{897}R^{1008} + 964PQ^{898}R^{1010} + 1251P^4Q^{898}R^{1009} + 2003P^7Q^{898}R^{1008} + \\
& 1340P^{10}Q^{898}R^{1007} + 2202P^2Q^{899}R^{1009} + 607P^5Q^{899}R^{1008} + 79P^8Q^{899}R^{1007} + 524Q^{900}R^{1009} + \\
& 1248P^3Q^{900}R^{1008} + 2290P^6Q^{900}R^{1007} + 2072P^9Q^{900}R^{1006} + 1668PQ^{901}R^{1008} +
\end{aligned}$$

$$\begin{aligned}
& 653P^4Q^{901}R^{1007} + 481P^7Q^{901}R^{1006} + 810P^{10}Q^{901}R^{1005} + 1852P^2Q^{902}R^{1007} + 2194P^5Q^{902}R^{1006} + \\
& 457P^8Q^{902}R^{1005} + 2117Q^{903}R^{1007} + 1366P^3Q^{903}R^{1006} + 1671P^6Q^{903}R^{1005} + 2296P^9Q^{903}R^{1004} + \\
& 2113PQ^{904}R^{1006} + 54P^4Q^{904}R^{1005} + 2121P^7Q^{904}R^{1004} + 1869P^{10}Q^{904}R^{1003} + 1412P^2Q^{905}R^{1005} + \\
& 166P^5Q^{905}R^{1004} + 754P^8Q^{905}R^{1003} + 1894Q^{906}R^{1005} + 1858P^3Q^{906}R^{1004} + 628P^6Q^{906}R^{1003} + \\
& 1513P^9Q^{906}R^{1002} + 1412PQ^{907}R^{1004} + 1676P^4Q^{907}R^{1003} + 1807P^7Q^{907}R^{1002} + \\
& 1990P^{10}Q^{907}R^{1001} + 1788P^2Q^{908}R^{1003} + 1532P^5Q^{908}R^{1002} + 400P^8Q^{908}R^{1001} + \\
& 983Q^{909}R^{1003} + 1836P^3Q^{909}R^{1002} + 2152P^6Q^{909}R^{1001} + 965P^9Q^{909}R^{1000} + 1092PQ^{910}R^{1002} + \\
& 129P^4Q^{910}R^{1001} + 909P^7Q^{910}R^{1000} + 1913P^{10}Q^{910}R^{999} + 1783P^2Q^{911}R^{1001} + 1255P^5Q^{911}R^{1000} + \\
& 1455P^8Q^{911}R^{999} + 1142Q^{912}R^{1001} + 2067P^3Q^{912}R^{1000} + 1887P^6Q^{912}R^{999} + 251P^9Q^{912}R^{998} + \\
& 2328PQ^{913}R^{1000} + 1871P^4Q^{913}R^{999} + 1302P^7Q^{913}R^{998} + 2050P^{10}Q^{913}R^{997} + 642P^2Q^{914}R^{999} + \\
& 383P^5Q^{914}R^{998} + 177P^8Q^{914}R^{997} + 1564Q^{915}R^{999} + 1807P^3Q^{915}R^{998} + 1260P^6Q^{915}R^{997} + \\
& 1095P^9Q^{915}R^{996} + 711PQ^{916}R^{998} + 2180P^4Q^{916}R^{997} + 1895P^7Q^{916}R^{996} + 464P^{10}Q^{916}R^{995} + \\
& 2239P^2Q^{917}R^{997} + 1782P^5Q^{917}R^{996} + 52P^8Q^{917}R^{995} + 171Q^{918}R^{997} + 105P^3Q^{918}R^{996} + \\
& 216P^6Q^{918}R^{995} + 1195P^9Q^{918}R^{994} + 932PQ^{919}R^{996} + 2178P^4Q^{919}R^{995} + 1668P^7Q^{919}R^{994} + \\
& 975P^{10}Q^{919}R^{993} + 2282P^2Q^{920}R^{995} + 2390P^5Q^{920}R^{994} + 583P^8Q^{920}R^{993} + 1048Q^{921}R^{995} + \\
& 793P^3Q^{921}R^{994} + 2099P^6Q^{921}R^{993} + 872P^9Q^{921}R^{992} + 518PQ^{922}R^{994} + 1426P^4Q^{922}R^{993} + \\
& 758P^7Q^{922}R^{992} + 589P^{10}Q^{922}R^{991} + 411P^2Q^{923}R^{993} + 823P^5Q^{923}R^{992} + 2315P^8Q^{923}R^{991} + \\
& 615Q^{924}R^{993} + 2271P^3Q^{924}R^{992} + 986P^6Q^{924}R^{991} + 1343P^9Q^{924}R^{990} + 2349PQ^{925}R^{992} + \\
& 1790P^4Q^{925}R^{991} + 583P^7Q^{925}R^{990} + 2078P^{10}Q^{925}R^{989} + 8P^2Q^{926}R^{991} + 1647P^5Q^{926}R^{990} + \\
& 1983P^8Q^{926}R^{989} + 1311Q^{927}R^{991} + 189P^3Q^{927}R^{990} + 2307P^6Q^{927}R^{989} + 1588P^9Q^{927}R^{988} + \\
& 694PQ^{928}R^{990} + 1228P^4Q^{928}R^{989} + 2396P^7Q^{928}R^{988} + 347P^{10}Q^{928}R^{987} + 1675P^2Q^{929}R^{989} + \\
& 1771P^5Q^{929}R^{988} + 217P^8Q^{929}R^{987} + 1806Q^{930}R^{989} + 1523P^3Q^{930}R^{988} + 1169P^6Q^{930}R^{987} + \\
& 1474P^9Q^{930}R^{986} + 926PQ^{931}R^{988} + 1668P^4Q^{931}R^{987} + 1247P^7Q^{931}R^{986} + 1756P^{10}Q^{931}R^{985} + \\
& 1287P^2Q^{932}R^{987} + 818P^5Q^{932}R^{986} + 401P^8Q^{932}R^{985} + 786Q^{933}R^{987} + 2241P^3Q^{933}R^{986} + \\
& 965P^6Q^{933}R^{985} + 756P^9Q^{933}R^{984} + 1360PQ^{934}R^{986} + 349P^4Q^{934}R^{985} + 483P^7Q^{934}R^{984} + \\
& 18P^{10}Q^{934}R^{983} + 1720P^2Q^{935}R^{985} + 2163P^5Q^{935}R^{984} + 1734P^8Q^{935}R^{983} + 1103Q^{936}R^{985} + \\
& 1480P^3Q^{936}R^{984} + 1392P^6Q^{936}R^{983} + 1297P^9Q^{936}R^{982} + 615PQ^{937}R^{984} + 1986P^4Q^{937}R^{983} + \\
& 858P^7Q^{937}R^{982} + 1146P^{10}Q^{937}R^{981} + 948P^2Q^{938}R^{983} + 512P^5Q^{938}R^{982} + 1768P^8Q^{938}R^{981} + \\
& 916Q^{939}R^{983} + 46P^3Q^{939}R^{982} + 870P^6Q^{939}R^{981} + 287P^9Q^{939}R^{980} + 1714PQ^{940}R^{982} + \\
& 1197P^4Q^{940}R^{981} + 89P^7Q^{940}R^{980} + 796P^{10}Q^{940}R^{979} + 1647P^2Q^{941}R^{981} + 1824P^5Q^{941}R^{980} + \\
& 2277P^8Q^{941}R^{979} + 525Q^{942}R^{981} + 1489P^3Q^{942}R^{980} + 1362P^6Q^{942}R^{979} + 2286P^9Q^{942}R^{978} + \\
& 289PQ^{943}R^{980} + 741P^4Q^{943}R^{979} + 607P^7Q^{943}R^{978} + 1723P^{10}Q^{943}R^{977} + 2175P^2Q^{944}R^{979} + \\
& 46P^5Q^{944}R^{978} + 1061P^8Q^{944}R^{977} + 1765Q^{945}R^{979} + 1262P^3Q^{945}R^{978} + 738P^6Q^{945}R^{977} + \\
& 1828P^9Q^{945}R^{976} + 82PQ^{946}R^{978} + 1774P^4Q^{946}R^{977} + 2373P^7Q^{946}R^{976} + 605P^{10}Q^{946}R^{975} + \\
& 495P^2Q^{947}R^{977} + 796P^5Q^{947}R^{976} + 2305P^8Q^{947}R^{975} + 300Q^{948}R^{977} + 1500P^3Q^{948}R^{976} + \\
& 2300P^6Q^{948}R^{975} + 1785P^9Q^{948}R^{974} + 1031PQ^{949}R^{976} + 631P^4Q^{949}R^{975} + 201P^7Q^{949}R^{974} + \\
& 353P^{10}Q^{949}R^{973} + 190P^2Q^{950}R^{975} + 985P^5Q^{950}R^{974} + 503P^8Q^{950}R^{973} + 1333Q^{951}R^{975} + \\
& 743P^3Q^{951}R^{974} + 1386P^6Q^{951}R^{973} + 274P^9Q^{951}R^{972} + 544PQ^{952}R^{974} + 473P^4Q^{952}R^{973} + \\
& 125P^7Q^{952}R^{972} + 1295P^{10}Q^{952}R^{971} + 2332P^2Q^{953}R^{973} + 1174P^5Q^{953}R^{972} + 964P^8Q^{953}R^{971} + \\
& 1286Q^{954}R^{973} + 1414P^3Q^{954}R^{972} + 127P^6Q^{954}R^{971} + 2304P^9Q^{954}R^{970} + 205PQ^{955}R^{972} + \\
& 1491P^4Q^{955}R^{971} + 138P^7Q^{955}R^{970} + 251P^{10}Q^{955}R^{969} + 1543P^2Q^{956}R^{971} + 2383P^5Q^{956}R^{970} + \\
& 966P^8Q^{956}R^{969} + 245Q^{957}R^{971} + 1246P^3Q^{957}R^{970} + 1706P^6Q^{957}R^{969} + 2081P^9Q^{957}R^{968} + \\
& 390PQ^{958}R^{970} + 378P^4Q^{958}R^{969} + 1874P^7Q^{958}R^{968} + 1489P^{10}Q^{958}R^{967} + 1366P^2Q^{959}R^{969} + \\
& 1129P^5Q^{959}R^{968} + 2176P^8Q^{959}R^{967} + 683Q^{960}R^{969} + 967P^3Q^{960}R^{968} + 2141P^6Q^{960}R^{967} + \\
& 2002P^9Q^{960}R^{966} + 24PQ^{961}R^{968} + 259P^4Q^{961}R^{967} + 932P^7Q^{961}R^{966} + 568P^{10}Q^{961}R^{965} + \\
& 2248P^2Q^{962}R^{967} + 100P^5Q^{962}R^{966} + 601P^8Q^{962}R^{965} + 2165Q^{963}R^{967} + 359P^3Q^{963}R^{966} + \\
& 668P^6Q^{963}R^{965} + 1304P^9Q^{963}R^{964} + 1055PQ^{964}R^{966} + 363P^4Q^{964}R^{965} + 2105P^7Q^{964}R^{964} + \\
& 463P^{10}Q^{964}R^{963} + 2156P^2Q^{965}R^{965} + 43P^5Q^{965}R^{964} + 1059P^8Q^{965}R^{963} + 2017Q^{966}R^{965} + \\
& 2231P^3Q^{966}R^{964} + 972P^6Q^{966}R^{963} + 1302P^9Q^{966}R^{962} + 1571PQ^{967}R^{964} + 428P^4Q^{967}R^{963} +
\end{aligned}$$

$$\begin{aligned}
& 45P^7Q^{967}R^{962} + 1241P^{10}Q^{967}R^{961} + 179P^2Q^{968}R^{963} + 986P^5Q^{968}R^{962} + 1923P^8Q^{968}R^{961} + \\
& 1171Q^{969}R^{963} + 1953P^3Q^{969}R^{962} + 878P^6Q^{969}R^{961} + 868P^9Q^{969}R^{960} + 589PQ^{970}R^{962} + \\
& 1175P^4Q^{970}R^{961} + 360P^7Q^{970}R^{960} + 1212P^{10}Q^{970}R^{959} + 255P^2Q^{971}R^{961} + 2030P^5Q^{971}R^{960} + \\
& 683P^8Q^{971}R^{959} + 1589Q^{972}R^{961} + 2170P^3Q^{972}R^{960} + 745P^6Q^{972}R^{959} + 749P^9Q^{972}R^{958} + \\
& 974PQ^{973}R^{960} + 591P^4Q^{973}R^{959} + 148P^7Q^{973}R^{958} + 112P^{10}Q^{973}R^{957} + 1023P^2Q^{974}R^{959} + \\
& 2125P^5Q^{974}R^{958} + 676P^8Q^{974}R^{957} + 969Q^{975}R^{959} + 988P^3Q^{975}R^{958} + 1148P^6Q^{975}R^{957} + \\
& 2185P^9Q^{975}R^{956} + 1675PQ^{976}R^{958} + 260P^4Q^{976}R^{957} + 770P^7Q^{976}R^{956} + 1578P^{10}Q^{976}R^{955} + \\
& 410P^2Q^{977}R^{957} + 2317P^5Q^{977}R^{956} + 1715P^8Q^{977}R^{955} + 112Q^{978}R^{957} + 2015P^3Q^{978}R^{956} + \\
& 1432P^6Q^{978}R^{955} + 645P^9Q^{978}R^{954} + 1701PQ^{979}R^{956} + 1661P^4Q^{979}R^{955} + 924P^7Q^{979}R^{954} + \\
& 24P^{10}Q^{979}R^{953} + 162P^2Q^{980}R^{955} + 2218P^5Q^{980}R^{954} + 551P^8Q^{980}R^{953} + 1843Q^{981}R^{955} + \\
& 897P^3Q^{981}R^{954} + 1620P^6Q^{981}R^{953} + 1447P^9Q^{981}R^{952} + 2064PQ^{982}R^{954} + 50P^4Q^{982}R^{953} + \\
& 1232P^7Q^{982}R^{952} + 311P^{10}Q^{982}R^{951} + 2339P^2Q^{983}R^{953} + 1267P^5Q^{983}R^{952} + 2345P^8Q^{983}R^{951} + \\
& 1238Q^{984}R^{953} + 212P^3Q^{984}R^{952} + 1132P^6Q^{984}R^{951} + 2279P^9Q^{984}R^{950} + 451PQ^{985}R^{952} + \\
& 2142P^4Q^{985}R^{951} + 729P^7Q^{985}R^{950} + 454P^{10}Q^{985}R^{949} + 870P^2Q^{986}R^{951} + 1563P^5Q^{986}R^{950} + \\
& 932P^8Q^{986}R^{949} + 489Q^{987}R^{951} + 2397P^3Q^{987}R^{950} + 226P^6Q^{987}R^{949} + 527P^9Q^{987}R^{948} + \\
& 1012PQ^{988}R^{950} + 1102P^4Q^{988}R^{949} + 843P^7Q^{988}R^{948} + 2059P^{10}Q^{988}R^{947} + 304P^2Q^{989}R^{949} + \\
& 1367P^5Q^{989}R^{948} + 553Q^{990}R^{949} + 760P^3Q^{990}R^{948} + 1654P^6Q^{990}R^{947} + 861P^9Q^{990}R^{946} + \\
& 1856PQ^{991}R^{948} + 1473P^4Q^{991}R^{947} + 2147P^7Q^{991}R^{946} + 1335P^{10}Q^{991}R^{945} + 1643P^2Q^{992}R^{947} + \\
& 501P^5Q^{992}R^{946} + 984P^8Q^{992}R^{945} + 422Q^{993}R^{947} + 970P^3Q^{993}R^{946} + 911P^6Q^{993}R^{945} + \\
& 1684P^9Q^{993}R^{944} + 1249PQ^{994}R^{946} + 549P^4Q^{994}R^{945} + 2178P^7Q^{994}R^{944} + 504P^{10}Q^{994}R^{943} + \\
& 1694P^2Q^{995}R^{945} + 1616P^5Q^{995}R^{944} + 1929P^8Q^{995}R^{943} + 167Q^{996}R^{945} + 2051P^3Q^{996}R^{944} + \\
& 4P^6Q^{996}R^{943} + 42P^9Q^{996}R^{942} + 460PQ^{997}R^{944} + 357P^4Q^{997}R^{943} + 1512P^7Q^{997}R^{942} + \\
& 2205P^{10}Q^{997}R^{941} + 731P^2Q^{998}R^{943} + 1509P^5Q^{998}R^{942} + 410P^8Q^{998}R^{941} + 604Q^{999}R^{943} + \\
& 2027P^3Q^{999}R^{942} + 2229P^6Q^{999}R^{941} + 1288P^9Q^{999}R^{940} + 1545PQ^{1000}R^{942} + 1933P^4Q^{1000}R^{941} + \\
& 1426P^7Q^{1000}R^{940} + 578P^{10}Q^{1000}R^{939} + 991P^2Q^{1001}R^{941} + 1887P^5Q^{1001}R^{940} + 363P^8Q^{1001}R^{939} + \\
& 2195Q^{1002}R^{941} + 1569P^3Q^{1002}R^{940} + 317P^6Q^{1002}R^{939} + 98P^9Q^{1002}R^{938} + 987PQ^{1003}R^{940} + \\
& 1774P^4Q^{1003}R^{939} + 567P^7Q^{1003}R^{938} + 2014P^{10}Q^{1003}R^{937} + 302P^2Q^{1004}R^{939} + 612P^5Q^{1004}R^{938} + \\
& 601P^8Q^{1004}R^{937} + 2043Q^{1005}R^{939} + 1540P^3Q^{1005}R^{938} + 1245P^6Q^{1005}R^{937} + 555P^9Q^{1005}R^{936} + \\
& 1144PQ^{1006}R^{938} + 1590P^4Q^{1006}R^{937} + 506P^7Q^{1006}R^{936} + 692P^{10}Q^{1006}R^{935} + 2239P^2Q^{1007}R^{937} + \\
& 2228P^5Q^{1007}R^{936} + 2113P^8Q^{1007}R^{935} + 1552Q^{1008}R^{937} + 1288P^3Q^{1008}R^{936} + 1184P^6Q^{1008}R^{935} + \\
& 2136P^9Q^{1008}R^{934} + 110PQ^{1009}R^{936} + 1529P^4Q^{1009}R^{935} + 134P^7Q^{1009}R^{934} + 1053P^{10}Q^{1009}R^{933} + \\
& 543P^2Q^{1010}R^{935} + 459P^5Q^{1010}R^{934} + 1401P^8Q^{1010}R^{933} + 2284Q^{1011}R^{935} + 9P^3Q^{1011}R^{934} + \\
& 1120P^6Q^{1011}R^{933} + 93P^9Q^{1011}R^{932} + 1636PQ^{1012}R^{934} + 1572P^4Q^{1012}R^{933} + 1957P^7Q^{1012}R^{932} + \\
& 37P^{10}Q^{1012}R^{931} + 546P^2Q^{1013}R^{933} + 1665P^5Q^{1013}R^{932} + 1086P^8Q^{1013}R^{931} + 1760Q^{1014}R^{933} + \\
& 893P^3Q^{1014}R^{932} + 808P^6Q^{1014}R^{931} + 387P^9Q^{1014}R^{930} + 784PQ^{1015}R^{932} + 724P^4Q^{1015}R^{931} + \\
& 23P^7Q^{1015}R^{930} + 546P^{10}Q^{1015}R^{929} + 849P^2Q^{1016}R^{931} + 1762P^5Q^{1016}R^{930} + 323P^8Q^{1016}R^{929} + \\
& 463Q^{1017}R^{931} + 1687P^3Q^{1017}R^{930} + 868P^6Q^{1017}R^{929} + 178P^9Q^{1017}R^{928} + 2029PQ^{1018}R^{930} + \\
& 1804P^4Q^{1018}R^{929} + 710P^7Q^{1018}R^{928} + 1113P^{10}Q^{1018}R^{927} + 1886P^2Q^{1019}R^{929} + \\
& 1214P^5Q^{1019}R^{928} + 1734P^8Q^{1019}R^{927} + 1503Q^{1020}R^{929} + 595P^3Q^{1020}R^{928} + 1918P^6Q^{1020}R^{927} + \\
& 1567P^9Q^{1020}R^{926} + 481PQ^{1021}R^{928} + 191P^4Q^{1021}R^{927} + 1961P^7Q^{1021}R^{926} + 797P^{10}Q^{1021}R^{925} + \\
& 720P^2Q^{1022}R^{927} + 164P^5Q^{1022}R^{926} + 2055P^8Q^{1022}R^{925} + 1724Q^{1023}R^{927} + 1810P^3Q^{1023}R^{926} + \\
& 2137P^6Q^{1023}R^{925} + 2215P^9Q^{1023}R^{924} + 871PQ^{1024}R^{926} + 1168P^4Q^{1024}R^{925} + 1854P^7Q^{1024}R^{924} + \\
& 567P^{10}Q^{1024}R^{923} + 1506P^2Q^{1025}R^{925} + 669P^5Q^{1025}R^{924} + 1915P^8Q^{1025}R^{923} + 1318Q^{1026}R^{925} + \\
& 376P^3Q^{1026}R^{924} + 518P^6Q^{1026}R^{923} + 833P^9Q^{1026}R^{922} + 1543PQ^{1027}R^{924} + 2107P^4Q^{1027}R^{923} + \\
& 779P^7Q^{1027}R^{922} + 1442P^{10}Q^{1027}R^{921} + 409P^2Q^{1028}R^{923} + 891P^5Q^{1028}R^{922} + 1497P^8Q^{1028}R^{921} + \\
& 1030Q^{1029}R^{923} + 1751P^3Q^{1029}R^{922} + 356P^6Q^{1029}R^{921} + 2377P^9Q^{1029}R^{920} + 811PQ^{1030}R^{922} + \\
& 613P^4Q^{1030}R^{921} + 274P^7Q^{1030}R^{920} + 773P^{10}Q^{1030}R^{919} + 237P^2Q^{1031}R^{921} + 1063P^5Q^{1031}R^{920} + \\
& 2130P^8Q^{1031}R^{919} + 303Q^{1032}R^{921} + 1681P^3Q^{1032}R^{920} + 2062P^6Q^{1032}R^{919} + 1284P^9Q^{1032}R^{918} + \\
& 712PQ^{1033}R^{920} + 1874P^4Q^{1033}R^{919} + 241P^7Q^{1033}R^{918} + 1605P^{10}Q^{1033}R^{917} + 1271P^2Q^{1034}R^{919} +
\end{aligned}$$

$$\begin{aligned}
& 1990P^5Q^{1034}R^{918} + 1219P^8Q^{1034}R^{917} + 533Q^{1035}R^{919} + 1363P^3Q^{1035}R^{918} + 712P^6Q^{1035}R^{917} + \\
& 760P^9Q^{1035}R^{916} + 2322PQ^{1036}R^{918} + 1355P^4Q^{1036}R^{917} + 62P^7Q^{1036}R^{916} + 1189P^{10}Q^{1036}R^{915} + \\
& 1813P^2Q^{1037}R^{917} + 596P^5Q^{1037}R^{916} + 1948P^8Q^{1037}R^{915} + 957Q^{1038}R^{917} + 396P^3Q^{1038}R^{916} + \\
& 1748P^6Q^{1038}R^{915} + 942P^9Q^{1038}R^{914} + 2238PQ^{1039}R^{916} + 305P^4Q^{1039}R^{915} + 1111P^7Q^{1039}R^{914} + \\
& 1307P^{10}Q^{1039}R^{913} + 2227P^2Q^{1040}R^{915} + 1931P^5Q^{1040}R^{914} + 462P^8Q^{1040}R^{913} + 604Q^{1041}R^{915} + \\
& 1934P^3Q^{1041}R^{914} + 1354P^6Q^{1041}R^{913} + 270P^9Q^{1041}R^{912} + 2363PQ^{1042}R^{914} + 1865P^4Q^{1042}R^{913} + \\
& 1933P^7Q^{1042}R^{912} + 1635P^{10}Q^{1042}R^{911} + 184P^2Q^{1043}R^{913} + 864P^5Q^{1043}R^{912} + \\
& 1674P^8Q^{1043}R^{911} + 938Q^{1044}R^{913} + 140P^3Q^{1044}R^{912} + 2326P^6Q^{1044}R^{911} + 1822P^9Q^{1044}R^{910} + \\
& 2370PQ^{1045}R^{912} + 1310P^4Q^{1045}R^{911} + 2339P^7Q^{1045}R^{910} + 428P^{10}Q^{1045}R^{909} + \\
& 1275P^2Q^{1046}R^{911} + 459P^5Q^{1046}R^{910} + 1353P^8Q^{1046}R^{909} + 54Q^{1047}R^{911} + 1596P^3Q^{1047}R^{910} + \\
& 1457P^6Q^{1047}R^{909} + 794P^9Q^{1047}R^{908} + 2104PQ^{1048}R^{910} + 1237P^4Q^{1048}R^{909} + 1351P^7Q^{1048}R^{908} + \\
& 1492P^{10}Q^{1048}R^{907} + 2198P^2Q^{1049}R^{909} + 986P^5Q^{1049}R^{908} + 1213P^8Q^{1049}R^{907} + 726Q^{1050}R^{909} + \\
& 43P^3Q^{1050}R^{908} + 2042P^6Q^{1050}R^{907} + 199P^9Q^{1050}R^{906} + 1395PQ^{1051}R^{908} + 28P^4Q^{1051}R^{907} + \\
& 1449P^7Q^{1051}R^{906} + 1477P^{10}Q^{1051}R^{905} + 2360P^2Q^{1052}R^{907} + 1826P^5Q^{1052}R^{906} + \\
& 1472P^8Q^{1052}R^{905} + 1043Q^{1053}R^{907} + 1041P^3Q^{1053}R^{906} + 10P^6Q^{1053}R^{905} + 1358P^9Q^{1053}R^{904} + \\
& 1917PQ^{1054}R^{906} + 1643P^4Q^{1054}R^{905} + 652P^7Q^{1054}R^{904} + 2339P^{10}Q^{1054}R^{903} + 725P^2Q^{1055}R^{905} + \\
& 140P^5Q^{1055}R^{904} + 118P^8Q^{1055}R^{903} + 250Q^{1056}R^{905} + 925P^3Q^{1056}R^{904} + 952P^6Q^{1056}R^{903} + \\
& 35P^9Q^{1056}R^{902} + 1444PQ^{1057}R^{904} + 1603P^4Q^{1057}R^{903} + 2312P^7Q^{1057}R^{902} + 224P^{10}Q^{1057}R^{901} + \\
& 2205P^2Q^{1058}R^{903} + 1591P^5Q^{1058}R^{902} + 2000P^8Q^{1058}R^{901} + 879Q^{1059}R^{903} + 100P^3Q^{1059}R^{902} + \\
& 756P^6Q^{1059}R^{901} + 1859P^9Q^{1059}R^{900} + 699PQ^{1060}R^{902} + 2089P^4Q^{1060}R^{901} + 1231P^7Q^{1060}R^{900} + \\
& 292P^{10}Q^{1060}R^{899} + 332P^2Q^{1061}R^{901} + 1435P^5Q^{1061}R^{900} + 550P^8Q^{1061}R^{899} + 2027Q^{1062}R^{901} + \\
& 1104P^3Q^{1062}R^{900} + 2183P^6Q^{1062}R^{899} + 363P^9Q^{1062}R^{898} + 926PQ^{1063}R^{900} + 900P^4Q^{1063}R^{899} + \\
& 1173P^7Q^{1063}R^{898} + 1684P^{10}Q^{1063}R^{897} + 2225P^2Q^{1064}R^{899} + 1249P^5Q^{1064}R^{898} + \\
& 2140P^8Q^{1064}R^{897} + 126Q^{1065}R^{899} + 664P^3Q^{1065}R^{898} + 2028P^6Q^{1065}R^{897} + 1306P^9Q^{1065}R^{896} + \\
& 818PQ^{1066}R^{898} + 2226P^4Q^{1066}R^{897} + 1422P^7Q^{1066}R^{896} + 2042P^{10}Q^{1066}R^{895} + \\
& 2070P^2Q^{1067}R^{897} + 595P^5Q^{1067}R^{896} + 1315P^8Q^{1067}R^{895} + 2149Q^{1068}R^{897} + 722P^3Q^{1068}R^{896} + \\
& 460P^6Q^{1068}R^{895} + 1681P^9Q^{1068}R^{894} + 1717PQ^{1069}R^{896} + 2372P^4Q^{1069}R^{895} + 973P^7Q^{1069}R^{894} + \\
& 364P^{10}Q^{1069}R^{893} + 455P^2Q^{1070}R^{895} + 71P^5Q^{1070}R^{894} + 240P^8Q^{1070}R^{893} + 1895Q^{1071}R^{895} + \\
& 1319P^3Q^{1071}R^{894} + 131P^6Q^{1071}R^{893} + 1789P^9Q^{1071}R^{892} + 384PQ^{1072}R^{894} + 440P^4Q^{1072}R^{893} + \\
& 1234P^7Q^{1072}R^{892} + 2317P^{10}Q^{1072}R^{891} + 2150P^2Q^{1073}R^{893} + 1079P^5Q^{1073}R^{892} + \\
& 1044P^8Q^{1073}R^{891} + 2140Q^{1074}R^{893} + 2274P^3Q^{1074}R^{892} + 1501P^6Q^{1074}R^{891} + 1586P^9Q^{1074}R^{890} + \\
& 2001PQ^{1075}R^{892} + 815P^4Q^{1075}R^{891} + 1747P^7Q^{1075}R^{890} + 2018P^{10}Q^{1075}R^{889} + \\
& 1612P^2Q^{1076}R^{891} + 963P^5Q^{1076}R^{890} + 2037P^8Q^{1076}R^{889} + 120Q^{1077}R^{891} + 1341P^3Q^{1077}R^{890} + \\
& 1357P^6Q^{1077}R^{889} + 1367P^9Q^{1077}R^{888} + 79PQ^{1078}R^{890} + 2067P^4Q^{1078}R^{889} + 2155P^7Q^{1078}R^{888} + \\
& 657P^{10}Q^{1078}R^{887} + 1390P^2Q^{1079}R^{889} + 682P^5Q^{1079}R^{888} + 243P^8Q^{1079}R^{887} + 1475Q^{1080}R^{889} + \\
& 1964P^3Q^{1080}R^{888} + 221P^6Q^{1080}R^{887} + 1025P^9Q^{1080}R^{886} + 1985PQ^{1081}R^{888} + 1291P^4Q^{1081}R^{887} + \\
& 536P^7Q^{1081}R^{886} + 1011P^{10}Q^{1081}R^{885} + 289P^2Q^{1082}R^{887} + 1281P^5Q^{1082}R^{886} + \\
& 2238P^8Q^{1082}R^{885} + 635Q^{1083}R^{887} + 1660P^3Q^{1083}R^{886} + 1957P^6Q^{1083}R^{885} + 1222P^9Q^{1083}R^{884} + \\
& 1777PQ^{1084}R^{886} + 995P^4Q^{1084}R^{885} + 1905P^7Q^{1084}R^{884} + 1856P^{10}Q^{1084}R^{883} + 412P^2Q^{1085}R^{885} + \\
& 1645P^5Q^{1085}R^{884} + 301P^8Q^{1085}R^{883} + 330Q^{1086}R^{885} + 799P^3Q^{1086}R^{884} + 788P^6Q^{1086}R^{883} + \\
& 2097P^9Q^{1086}R^{882} + 97PQ^{1087}R^{884} + 857P^4Q^{1087}R^{883} + 196P^7Q^{1087}R^{882} + 1071P^{10}Q^{1087}R^{881} + \\
& 944P^2Q^{1088}R^{883} + 219P^5Q^{1088}R^{882} + 749P^8Q^{1088}R^{881} + 620Q^{1089}R^{883} + 1842P^3Q^{1089}R^{882} + \\
& 2249P^6Q^{1089}R^{881} + 1338P^9Q^{1089}R^{880} + 2148PQ^{1090}R^{882} + 1802P^4Q^{1090}R^{881} + \\
& 840P^7Q^{1090}R^{880} + 697P^{10}Q^{1090}R^{879} + 1709P^2Q^{1091}R^{881} + 1494P^5Q^{1091}R^{880} + 927P^8Q^{1091}R^{879} + \\
& 1069Q^{1092}R^{881} + 1351P^3Q^{1092}R^{880} + 670P^6Q^{1092}R^{879} + 830P^9Q^{1092}R^{878} + 845PQ^{1093}R^{880} + \\
& 616P^4Q^{1093}R^{879} + 619P^7Q^{1093}R^{878} + 2177P^{10}Q^{1093}R^{877} + 278P^2Q^{1094}R^{879} + 2162P^5Q^{1094}R^{878} + \\
& 1271P^8Q^{1094}R^{877} + 355Q^{1095}R^{879} + 1575P^3Q^{1095}R^{878} + 1756P^6Q^{1095}R^{877} + 521P^9Q^{1095}R^{876} + \\
& 2385PQ^{1096}R^{878} + 2204P^4Q^{1096}R^{877} + 54P^7Q^{1096}R^{876} + 1883P^{10}Q^{1096}R^{875} + 1762P^2Q^{1097}R^{877} + \\
& 449P^5Q^{1097}R^{876} + 1349P^8Q^{1097}R^{875} + 1416Q^{1098}R^{877} + 556P^3Q^{1098}R^{876} + 430P^6Q^{1098}R^{875} +
\end{aligned}$$

$$\begin{aligned}
& 754P^9Q^{1098}R^{874} + 1940PQ^{1099}R^{876} + 852P^4Q^{1099}R^{875} + 1129P^7Q^{1099}R^{874} + 1143P^{10}Q^{1099}R^{873} + \\
& 1914P^2Q^{1100}R^{875} + 2364P^5Q^{1100}R^{874} + 285P^8Q^{1100}R^{873} + 2245Q^{1101}R^{875} + 1737P^3Q^{1101}R^{874} + \\
& 56P^6Q^{1101}R^{873} + 2010P^9Q^{1101}R^{872} + 626PQ^{1102}R^{874} + 1177P^4Q^{1102}R^{873} + 422P^7Q^{1102}R^{872} + \\
& 340P^{10}Q^{1102}R^{871} + 1062P^2Q^{1103}R^{873} + 2111P^5Q^{1103}R^{872} + 1718P^8Q^{1103}R^{871} + 1133Q^{1104}R^{873} + \\
& 1808P^3Q^{1104}R^{872} + 1838P^6Q^{1104}R^{871} + 652P^9Q^{1104}R^{870} + 1222PQ^{1105}R^{872} + 643P^4Q^{1105}R^{871} + \\
& 1166P^7Q^{1105}R^{870} + 508P^{10}Q^{1105}R^{869} + 1932P^2Q^{1106}R^{871} + 1599P^5Q^{1106}R^{870} + \\
& 1241P^8Q^{1106}R^{869} + 1591Q^{1107}R^{871} + 478P^3Q^{1107}R^{870} + 1830P^6Q^{1107}R^{869} + 90P^9Q^{1107}R^{868} + \\
& 2280PQ^{1108}R^{870} + 610P^4Q^{1108}R^{869} + 2025P^7Q^{1108}R^{868} + 226P^{10}Q^{1108}R^{867} + 2210P^2Q^{1109}R^{869} + \\
& 1143P^5Q^{1109}R^{868} + 1890P^8Q^{1109}R^{867} + 704Q^{1110}R^{869} + 1266P^3Q^{1110}R^{868} + 1433P^6Q^{1110}R^{867} + \\
& 655P^9Q^{1110}R^{866} + 72PQ^{1111}R^{868} + 350P^4Q^{1111}R^{867} + 1238P^7Q^{1111}R^{866} + 538P^{10}Q^{1111}R^{865} + \\
& 2299P^2Q^{1112}R^{867} + 359P^5Q^{1112}R^{866} + 76P^8Q^{1112}R^{865} + 1528Q^{1113}R^{867} + 141P^3Q^{1113}R^{866} + \\
& 767P^6Q^{1113}R^{865} + 1797P^9Q^{1113}R^{864} + 2326PQ^{1114}R^{866} + 2355P^4Q^{1114}R^{865} + 178P^7Q^{1114}R^{864} + \\
& 2229P^{10}Q^{1114}R^{863} + 1311P^2Q^{1115}R^{865} + 944P^5Q^{1115}R^{864} + 1286P^8Q^{1115}R^{863} + 268Q^{1116}R^{865} + \\
& 1599P^3Q^{1116}R^{864} + 1533P^6Q^{1116}R^{863} + 1064P^9Q^{1116}R^{862} + 523PQ^{1117}R^{864} + 1129P^4Q^{1117}R^{863} + \\
& 725P^7Q^{1117}R^{862} + 1612P^{10}Q^{1117}R^{861} + 1668P^2Q^{1118}R^{863} + 74P^5Q^{1118}R^{862} + 661P^8Q^{1118}R^{861} + \\
& 2161Q^{1119}R^{863} + 1522P^3Q^{1119}R^{862} + 1570P^6Q^{1119}R^{861} + 2011P^9Q^{1119}R^{860} + 1755PQ^{1120}R^{862} + \\
& 2259P^4Q^{1120}R^{861} + 2149P^7Q^{1120}R^{860} + 1538P^{10}Q^{1120}R^{859} + 1959P^2Q^{1121}R^{861} + \\
& 2347P^5Q^{1121}R^{860} + 964P^8Q^{1121}R^{859} + 2388Q^{1122}R^{861} + 781P^3Q^{1122}R^{860} + 573P^6Q^{1122}R^{859} + \\
& 1469P^9Q^{1122}R^{858} + 1231PQ^{1123}R^{860} + 1614P^4Q^{1123}R^{859} + 1107P^7Q^{1123}R^{858} + \\
& 615P^{10}Q^{1123}R^{857} + 1641P^2Q^{1124}R^{859} + 1438P^5Q^{1124}R^{858} + 169P^8Q^{1124}R^{857} + 1035Q^{1125}R^{859} + \\
& 2057P^3Q^{1125}R^{858} + 1214P^6Q^{1125}R^{857} + 1685P^9Q^{1125}R^{856} + 619PQ^{1126}R^{858} + 2322P^4Q^{1126}R^{857} + \\
& 305P^7Q^{1126}R^{856} + 1349P^{10}Q^{1126}R^{855} + 1092P^2Q^{1127}R^{857} + 1395P^5Q^{1127}R^{856} + \\
& 1569P^8Q^{1127}R^{855} + 1196Q^{1128}R^{857} + 1045P^3Q^{1128}R^{856} + 1082P^6Q^{1128}R^{855} + 2269P^9Q^{1128}R^{854} + \\
& 1573PQ^{1129}R^{856} + 741P^4Q^{1129}R^{855} + 1112P^7Q^{1129}R^{854} + 334P^{10}Q^{1129}R^{853} + 1887P^2Q^{1130}R^{855} + \\
& 1074P^5Q^{1130}R^{854} + 2016P^8Q^{1130}R^{853} + 2042Q^{1131}R^{855} + 1918P^3Q^{1131}R^{854} + 2340P^6Q^{1131}R^{853} + \\
& 1035P^9Q^{1131}R^{852} + 1771PQ^{1132}R^{854} + 2143P^4Q^{1132}R^{853} + 214P^7Q^{1132}R^{852} + 915P^{10}Q^{1132}R^{851} + \\
& 1545P^2Q^{1133}R^{853} + 208P^5Q^{1133}R^{852} + 932P^8Q^{1133}R^{851} + 2298Q^{1134}R^{853} + 90P^3Q^{1134}R^{852} + \\
& 63P^6Q^{1134}R^{851} + 2154P^9Q^{1134}R^{850} + 1125PQ^{1135}R^{852} + 900P^4Q^{1135}R^{851} + 656P^7Q^{1135}R^{850} + \\
& 2145P^{10}Q^{1135}R^{849} + 2208P^2Q^{1136}R^{851} + 806P^5Q^{1136}R^{850} + 1830P^8Q^{1136}R^{849} + \\
& 278Q^{1137}R^{851} + 1575P^3Q^{1137}R^{850} + 1880P^6Q^{1137}R^{849} + 1916P^9Q^{1137}R^{848} + 1518PQ^{1138}R^{850} + \\
& 1144P^4Q^{1138}R^{849} + 2327P^7Q^{1138}R^{848} + 1493P^{10}Q^{1138}R^{847} + 1499P^2Q^{1139}R^{849} + \\
& 297P^5Q^{1139}R^{848} + 795P^8Q^{1139}R^{847} + 2166Q^{1140}R^{849} + 1330P^3Q^{1140}R^{848} + 1769P^6Q^{1140}R^{847} + \\
& 2125P^9Q^{1140}R^{846} + 1825PQ^{1141}R^{848} + 1914P^4Q^{1141}R^{847} + 2359P^7Q^{1141}R^{846} + \\
& 2029P^{10}Q^{1141}R^{845} + 1281P^2Q^{1142}R^{847} + 2244P^5Q^{1142}R^{846} + 2323P^8Q^{1142}R^{845} + \\
& 1332Q^{1143}R^{847} + 2292P^3Q^{1143}R^{846} + 1832P^6Q^{1143}R^{845} + 2183P^9Q^{1143}R^{844} + 1420PQ^{1144}R^{846} + \\
& 592P^4Q^{1144}R^{845} + 1619P^7Q^{1144}R^{844} + 1772P^{10}Q^{1144}R^{843} + 1053P^2Q^{1145}R^{845} + \\
& 1051P^5Q^{1145}R^{844} + 489P^8Q^{1145}R^{843} + 1765Q^{1146}R^{845} + 1671P^3Q^{1146}R^{844} + 1428P^6Q^{1146}R^{843} + \\
& 1743P^9Q^{1146}R^{842} + 2258PQ^{1147}R^{844} + 332P^4Q^{1147}R^{843} + 286P^7Q^{1147}R^{842} + 1790P^{10}Q^{1147}R^{841} + \\
& 73P^2Q^{1148}R^{843} + 1994P^5Q^{1148}R^{842} + 2212P^8Q^{1148}R^{841} + 944Q^{1149}R^{843} + 2326P^3Q^{1149}R^{842} + \\
& 1968P^6Q^{1149}R^{841} + 788P^9Q^{1149}R^{840} + 52PQ^{1150}R^{842} + 1997P^4Q^{1150}R^{841} + 384P^7Q^{1150}R^{840} + \\
& 1303P^{10}Q^{1150}R^{839} + 1613P^2Q^{1151}R^{841} + 997P^5Q^{1151}R^{840} + 1349P^8Q^{1151}R^{839} + \\
& 1875Q^{1152}R^{841} + 111P^3Q^{1152}R^{840} + 686P^6Q^{1152}R^{839} + 1189P^9Q^{1152}R^{838} + 603PQ^{1153}R^{840} + \\
& 1048P^4Q^{1153}R^{839} + 1011P^7Q^{1153}R^{838} + 1459P^{10}Q^{1153}R^{837} + 2291P^2Q^{1154}R^{839} + \\
& 38P^5Q^{1154}R^{838} + 1683P^8Q^{1154}R^{837} + 2118Q^{1155}R^{839} + 2055P^3Q^{1155}R^{838} + 1506P^6Q^{1155}R^{837} + \\
& 361P^9Q^{1155}R^{836} + 2090PQ^{1156}R^{838} + 1160P^4Q^{1156}R^{837} + 578P^7Q^{1156}R^{836} + 169P^{10}Q^{1156}R^{835} + \\
& 1730P^2Q^{1157}R^{837} + 921P^5Q^{1157}R^{836} + 1805P^8Q^{1157}R^{835} + 14Q^{1158}R^{837} + 530P^3Q^{1158}R^{836} + \\
& 2331P^6Q^{1158}R^{835} + 1196P^9Q^{1158}R^{834} + 466PQ^{1159}R^{836} + 2328P^4Q^{1159}R^{835} + 2134P^7Q^{1159}R^{834} + \\
& 1331P^{10}Q^{1159}R^{833} + 880P^2Q^{1160}R^{835} + 134P^5Q^{1160}R^{834} + 1756P^8Q^{1160}R^{833} + \\
& 2023Q^{1161}R^{835} + 1674P^3Q^{1161}R^{834} + 700P^6Q^{1161}R^{833} + 1603P^9Q^{1161}R^{832} + 164PQ^{1162}R^{834} +
\end{aligned}$$



$$\begin{aligned}
& 1759P^4Q^{1162}R^{833} + 634P^7Q^{1162}R^{832} + 381P^{10}Q^{1162}R^{831} + 58P^2Q^{1163}R^{833} + 333P^5Q^{1163}R^{832} + \\
& 1452P^8Q^{1163}R^{831} + 2234Q^{1164}R^{833} + 103P^3Q^{1164}R^{832} + 2342P^6Q^{1164}R^{831} + 2199P^9Q^{1164}R^{830} + \\
& 2339PQ^{1165}R^{832} + 1262P^4Q^{1165}R^{831} + 322P^7Q^{1165}R^{830} + 2292P^{10}Q^{1165}R^{829} + \\
& 208P^2Q^{1166}R^{831} + 2322P^5Q^{1166}R^{830} + 2374P^8Q^{1166}R^{829} + 2083Q^{1167}R^{831} + 2077P^3Q^{1167}R^{830} + \\
& 492P^6Q^{1167}R^{829} + 2061P^9Q^{1167}R^{828} + 811PQ^{1168}R^{830} + 2180P^4Q^{1168}R^{829} + 2060P^7Q^{1168}R^{828} + \\
& 814P^{10}Q^{1168}R^{827} + 2241P^2Q^{1169}R^{829} + 660P^5Q^{1169}R^{828} + 1615P^8Q^{1169}R^{827} + 1953Q^{1170}R^{829} + \\
& 786P^3Q^{1170}R^{828} + 571P^6Q^{1170}R^{827} + 252P^9Q^{1170}R^{826} + 2322PQ^{1171}R^{828} + 1302P^4Q^{1171}R^{827} + \\
& 1348P^7Q^{1171}R^{826} + 2012P^{10}Q^{1171}R^{825} + 1612P^2Q^{1172}R^{827} + 1586P^5Q^{1172}R^{826} + \\
& 1818P^8Q^{1172}R^{825} + 2153Q^{1173}R^{827} + 1788P^3Q^{1173}R^{826} + 1628P^6Q^{1173}R^{825} + 164P^9Q^{1173}R^{824} + \\
& 1512PQ^{1174}R^{826} + 1372P^4Q^{1174}R^{825} + 2301P^7Q^{1174}R^{824} + 818P^{10}Q^{1174}R^{823} + \\
& 557P^2Q^{1175}R^{825} + 806P^5Q^{1175}R^{824} + 776P^8Q^{1175}R^{823} + 524Q^{1176}R^{825} + 1794P^3Q^{1176}R^{824} + \\
& 908P^6Q^{1176}R^{823} + 144P^9Q^{1176}R^{822} + 1022PQ^{1177}R^{824} + 1085P^4Q^{1177}R^{823} + 1766P^7Q^{1177}R^{822} + \\
& 535P^{10}Q^{1177}R^{821} + 1271P^2Q^{1178}R^{823} + 1761P^5Q^{1178}R^{822} + 1571P^8Q^{1178}R^{821} + 142Q^{1179}R^{823} + \\
& 1100P^3Q^{1179}R^{822} + 868P^6Q^{1179}R^{821} + 1444P^9Q^{1179}R^{820} + 477PQ^{1180}R^{822} + 512P^4Q^{1180}R^{821} + \\
& 670P^7Q^{1180}R^{820} + 1335P^{10}Q^{1180}R^{819} + 92P^2Q^{1181}R^{821} + 1654P^5Q^{1181}R^{820} + 746P^8Q^{1181}R^{819} + \\
& 1591Q^{1182}R^{821} + 1096P^3Q^{1182}R^{820} + 2256P^6Q^{1182}R^{819} + 1529P^9Q^{1182}R^{818} + 569PQ^{1183}R^{820} + \\
& 1777P^4Q^{1183}R^{819} + 1660P^7Q^{1183}R^{818} + 1053P^{10}Q^{1183}R^{817} + 1744P^2Q^{1184}R^{819} + \\
& 1750P^5Q^{1184}R^{818} + 2386P^8Q^{1184}R^{817} + 2113Q^{1185}R^{819} + 1344P^3Q^{1185}R^{818} + 1096P^6Q^{1185}R^{817} + \\
& 1615P^9Q^{1185}R^{816} + 736PQ^{1186}R^{818} + 542P^4Q^{1186}R^{817} + 906P^7Q^{1186}R^{816} + 472P^{10}Q^{1186}R^{815} + \\
& 48P^2Q^{1187}R^{817} + 189P^5Q^{1187}R^{816} + 1273P^8Q^{1187}R^{815} + 1341Q^{1188}R^{817} + 2090P^3Q^{1188}R^{816} + \\
& 1433P^6Q^{1188}R^{815} + 1945P^9Q^{1188}R^{814} + 392PQ^{1189}R^{816} + 1509P^4Q^{1189}R^{815} + 1960P^7Q^{1189}R^{814} + \\
& 55P^{10}Q^{1189}R^{813} + 1195P^2Q^{1190}R^{815} + 296P^5Q^{1190}R^{814} + 2167P^8Q^{1190}R^{813} + 1607Q^{1191}R^{815} + \\
& 1525P^3Q^{1191}R^{814} + 1226P^6Q^{1191}R^{813} + 268P^9Q^{1191}R^{812} + 1534PQ^{1192}R^{814} + 1596P^4Q^{1192}R^{813} + \\
& 2302P^7Q^{1192}R^{812} + 1838P^{10}Q^{1192}R^{811} + 1971P^2Q^{1193}R^{813} + 2155P^5Q^{1193}R^{812} + \\
& 987P^8Q^{1193}R^{811} + 1151Q^{1194}R^{813} + 908P^3Q^{1194}R^{812} + 1661P^6Q^{1194}R^{811} + 19P^9Q^{1194}R^{810} + \\
& 1051PQ^{1195}R^{812} + 2061P^4Q^{1195}R^{811} + 1737P^7Q^{1195}R^{810} + 1064P^{10}Q^{1195}R^{809} + \\
& 1395P^2Q^{1196}R^{811} + 2011P^5Q^{1196}R^{810} + 1264P^8Q^{1196}R^{809} + 863Q^{1197}R^{811} + 1675P^3Q^{1197}R^{810} + \\
& 935P^6Q^{1197}R^{809} + 118P^9Q^{1197}R^{808} + 1557PQ^{1198}R^{810} + 1842P^4Q^{1198}R^{809} + 966P^7Q^{1198}R^{808} + \\
& 1131P^{10}Q^{1198}R^{807} + 2386P^2Q^{1199}R^{809} + 1988P^5Q^{1199}R^{808} + 1856P^8Q^{1199}R^{807} + \\
& 1468Q^{1200}R^{809} + 607P^3Q^{1200}R^{808} + 558P^6Q^{1200}R^{807} + 704P^9Q^{1200}R^{806} + 1665PQ^{1201}R^{808} + \\
& 778P^4Q^{1201}R^{807} + 221P^7Q^{1201}R^{806} + 146P^{10}Q^{1201}R^{805} + 1758P^2Q^{1202}R^{807} + 2220P^5Q^{1202}R^{806} + \\
& 129P^8Q^{1202}R^{805} + 2212Q^{1203}R^{807} + 483P^3Q^{1203}R^{806} + 884P^6Q^{1203}R^{805} + 1588P^9Q^{1203}R^{804} + \\
& 96PQ^{1204}R^{806} + 1067P^4Q^{1204}R^{805} + 902P^7Q^{1204}R^{804} + 2341P^{10}Q^{1204}R^{803} + 2201P^2Q^{1205}R^{805} + \\
& 525P^5Q^{1205}R^{804} + 1487P^8Q^{1205}R^{803} + 1942Q^{1206}R^{805} + 878P^3Q^{1206}R^{804} + 647P^6Q^{1206}R^{803} + \\
& 249P^9Q^{1206}R^{802} + 2279PQ^{1207}R^{804} + 1977P^4Q^{1207}R^{803} + 559P^7Q^{1207}R^{802} + 2004P^{10}Q^{1207}R^{801} + \\
& 268P^2Q^{1208}R^{803} + 693P^5Q^{1208}R^{802} + 1985P^8Q^{1208}R^{801} + 2344Q^{1209}R^{803} + 1185P^3Q^{1209}R^{802} + \\
& 1875P^6Q^{1209}R^{801} + 1441P^9Q^{1209}R^{800} + 1555PQ^{1210}R^{802} + 2315P^4Q^{1210}R^{801} + \\
& 2256P^7Q^{1210}R^{800} + 388P^{10}Q^{1210}R^{799} + 1400P^2Q^{1211}R^{801} + 435P^5Q^{1211}R^{800} + 833P^8Q^{1211}R^{799} + \\
& 579Q^{1212}R^{801} + 2385P^3Q^{1212}R^{800} + 2392P^6Q^{1212}R^{799} + 1876P^9Q^{1212}R^{798} + 618PQ^{1213}R^{800} + \\
& 915P^4Q^{1213}R^{799} + 1269P^7Q^{1213}R^{798} + 2032P^{10}Q^{1213}R^{797} + 1392P^2Q^{1214}R^{799} + \\
& 2290P^5Q^{1214}R^{798} + 2216P^8Q^{1214}R^{797} + 862Q^{1215}R^{799} + 2212P^3Q^{1215}R^{798} + 117P^6Q^{1215}R^{797} + \\
& 1768P^9Q^{1215}R^{796} + 2070PQ^{1216}R^{798} + 132P^4Q^{1216}R^{797} + 1420P^7Q^{1216}R^{796} + 370P^{10}Q^{1216}R^{795} + \\
& 1737P^2Q^{1217}R^{797} + 227P^5Q^{1217}R^{796} + 1464P^8Q^{1217}R^{795} + 152Q^{1218}R^{797} + 1000P^3Q^{1218}R^{796} + \\
& 1123P^6Q^{1218}R^{795} + 1804P^9Q^{1218}R^{794} + 17PQ^{1219}R^{796} + 1144P^4Q^{1219}R^{795} + 1701P^7Q^{1219}R^{794} + \\
& 479P^{10}Q^{1219}R^{793} + 941P^2Q^{1220}R^{795} + 1263P^5Q^{1220}R^{794} + 1661P^8Q^{1220}R^{793} + 370Q^{1221}R^{795} + \\
& 634P^3Q^{1221}R^{794} + 1085P^6Q^{1221}R^{793} + 264P^9Q^{1221}R^{792} + 770PQ^{1222}R^{794} + 398P^4Q^{1222}R^{793} + \\
& 1067P^7Q^{1222}R^{792} + 2295P^{10}Q^{1222}R^{791} + 82P^2Q^{1223}R^{793} + 1952P^5Q^{1223}R^{792} + \\
& 876P^8Q^{1223}R^{791} + 1618Q^{1224}R^{793} + 1983P^3Q^{1224}R^{792} + 2240P^6Q^{1224}R^{791} + 1462P^9Q^{1224}R^{790} + \\
& 1087PQ^{1225}R^{792} + 1894P^4Q^{1225}R^{791} + 2219P^7Q^{1225}R^{790} + 153P^{10}Q^{1225}R^{789} +
\end{aligned}$$

$$\begin{aligned}
& 640P^2Q^{1226}R^{791} + 1347P^5Q^{1226}R^{790} + 468P^8Q^{1226}R^{789} + 827Q^{1227}R^{791} + 1978P^3Q^{1227}R^{790} + \\
& 83P^6Q^{1227}R^{789} + 2116P^9Q^{1227}R^{788} + 1191PQ^{1228}R^{790} + 205P^4Q^{1228}R^{789} + 2091P^7Q^{1228}R^{788} + \\
& 441P^{10}Q^{1228}R^{787} + 594P^2Q^{1229}R^{789} + 1901P^5Q^{1229}R^{788} + 687P^8Q^{1229}R^{787} + 703Q^{1230}R^{789} + \\
& 1892P^3Q^{1230}R^{788} + 465P^6Q^{1230}R^{787} + 1359P^9Q^{1230}R^{786} + 542PQ^{1231}R^{788} + 899P^4Q^{1231}R^{787} + \\
& 2175P^7Q^{1231}R^{786} + 1793P^{10}Q^{1231}R^{785} + 986P^2Q^{1232}R^{787} + 1028P^5Q^{1232}R^{786} + \\
& 1959P^8Q^{1232}R^{785} + 952Q^{1233}R^{787} + 1875P^3Q^{1233}R^{786} + 879P^6Q^{1233}R^{785} + 700P^9Q^{1233}R^{784} + \\
& 1063PQ^{1234}R^{786} + 626P^4Q^{1234}R^{785} + 393P^7Q^{1234}R^{784} + 1387P^{10}Q^{1234}R^{783} + 869P^2Q^{1235}R^{785} + \\
& 788P^5Q^{1235}R^{784} + 1060P^8Q^{1235}R^{783} + 989Q^{1236}R^{785} + 2377P^3Q^{1236}R^{784} + 1706P^6Q^{1236}R^{783} + \\
& 1806P^9Q^{1236}R^{782} + 538PQ^{1237}R^{784} + 1901P^4Q^{1237}R^{783} + 1503P^7Q^{1237}R^{782} + 767P^{10}Q^{1237}R^{781} + \\
& 1306P^2Q^{1238}R^{783} + 1021P^5Q^{1238}R^{782} + 828P^8Q^{1238}R^{781} + 2298Q^{1239}R^{783} + 675P^3Q^{1239}R^{782} + \\
& 2186P^6Q^{1239}R^{781} + 2211P^9Q^{1239}R^{780} + 1586PQ^{1240}R^{782} + 133P^4Q^{1240}R^{781} + 1571P^7Q^{1240}R^{780} + \\
& 2222P^{10}Q^{1240}R^{779} + 191P^2Q^{1241}R^{781} + 1629P^5Q^{1241}R^{780} + 2350P^8Q^{1241}R^{779} + 2106Q^{1242}R^{781} + \\
& 1995P^3Q^{1242}R^{780} + 1125P^6Q^{1242}R^{779} + 313P^9Q^{1242}R^{778} + 1866PQ^{1243}R^{780} + 513P^4Q^{1243}R^{779} + \\
& 1199P^7Q^{1243}R^{778} + 121P^{10}Q^{1243}R^{777} + 1006P^2Q^{1244}R^{779} + 351P^5Q^{1244}R^{778} + 103P^8Q^{1244}R^{777} + \\
& 275Q^{1245}R^{779} + 1953P^3Q^{1245}R^{778} + 554P^6Q^{1245}R^{777} + 1550P^9Q^{1245}R^{776} + 1283PQ^{1246}R^{778} + \\
& 1078P^4Q^{1246}R^{777} + 2339P^7Q^{1246}R^{776} + 1915P^{10}Q^{1246}R^{775} + 1425P^2Q^{1247}R^{777} + \\
& 606P^5Q^{1247}R^{776} + 653P^8Q^{1247}R^{775} + 1409Q^{1248}R^{777} + 109P^3Q^{1248}R^{776} + 60P^6Q^{1248}R^{775} + \\
& 898P^9Q^{1248}R^{774} + 923PQ^{1249}R^{776} + 133P^4Q^{1249}R^{775} + 1510P^7Q^{1249}R^{774} + 2009P^{10}Q^{1249}R^{773} + \\
& 1407P^2Q^{1250}R^{775} + 2193P^5Q^{1250}R^{774} + 1505P^8Q^{1250}R^{773} + 558Q^{1251}R^{775} + 1801P^3Q^{1251}R^{774} + \\
& 655P^6Q^{1251}R^{773} + 387P^9Q^{1251}R^{772} + 709PQ^{1252}R^{774} + 1791P^4Q^{1252}R^{773} + 2224P^7Q^{1252}R^{772} + \\
& 1121P^{10}Q^{1252}R^{771} + 619P^2Q^{1253}R^{773} + 1329P^5Q^{1253}R^{772} + 218P^8Q^{1253}R^{771} + 1622Q^{1254}R^{773} + \\
& 274P^3Q^{1254}R^{772} + 2253P^6Q^{1254}R^{771} + 1268P^9Q^{1254}R^{770} + 1054PQ^{1255}R^{772} + 849P^4Q^{1255}R^{771} + \\
& 1148P^7Q^{1255}R^{770} + 215P^{10}Q^{1255}R^{769} + 1299P^2Q^{1256}R^{771} + 1829P^5Q^{1256}R^{770} + \\
& 1485P^8Q^{1256}R^{769} + 1865Q^{1257}R^{771} + 1855P^3Q^{1257}R^{770} + 1201P^6Q^{1257}R^{769} + 1973P^9Q^{1257}R^{768} + \\
& 2270PQ^{1258}R^{770} + 1224P^4Q^{1258}R^{769} + 1415P^7Q^{1258}R^{768} + 1336P^{10}Q^{1258}R^{767} + \\
& 1293P^2Q^{1259}R^{769} + 2358P^5Q^{1259}R^{768} + 2259P^8Q^{1259}R^{767} + 2153Q^{1260}R^{769} + 660P^3Q^{1260}R^{768} + \\
& 1608P^6Q^{1260}R^{767} + 1852P^9Q^{1260}R^{766} + 1282PQ^{1261}R^{768} + 1310P^4Q^{1261}R^{767} + 812P^7Q^{1261}R^{766} + \\
& 1745P^{10}Q^{1261}R^{765} + 1403P^2Q^{1262}R^{767} + 646P^5Q^{1262}R^{766} + 1752P^8Q^{1262}R^{765} + \\
& 2235Q^{1263}R^{767} + 703P^3Q^{1263}R^{766} + 1779P^6Q^{1263}R^{765} + 648P^9Q^{1263}R^{764} + 205PQ^{1264}R^{766} + \\
& 1991P^4Q^{1264}R^{765} + 899P^7Q^{1264}R^{764} + 1568P^{10}Q^{1264}R^{763} + 1235P^2Q^{1265}R^{765} + 92P^5Q^{1265}R^{764} + \\
& 2110P^8Q^{1265}R^{763} + 148Q^{1266}R^{765} + 246P^3Q^{1266}R^{764} + 177P^6Q^{1266}R^{763} + 1108P^9Q^{1266}R^{762} + \\
& 1282PQ^{1267}R^{764} + 1628P^4Q^{1267}R^{763} + 510P^7Q^{1267}R^{762} + 2089P^{10}Q^{1267}R^{761} + 32P^2Q^{1268}R^{763} + \\
& 296P^5Q^{1268}R^{762} + 1852P^8Q^{1268}R^{761} + 1497Q^{1269}R^{763} + 54P^3Q^{1269}R^{762} + 1130P^6Q^{1269}R^{761} + \\
& 890P^9Q^{1269}R^{760} + 119PQ^{1270}R^{762} + 956P^4Q^{1270}R^{761} + 230P^7Q^{1270}R^{760} + 1067P^{10}Q^{1270}R^{759} + \\
& 2159P^2Q^{1271}R^{761} + 849P^5Q^{1271}R^{760} + 2389P^8Q^{1271}R^{759} + 1835Q^{1272}R^{761} + 1334P^3Q^{1272}R^{760} + \\
& 1179P^6Q^{1272}R^{759} + 1072P^9Q^{1272}R^{758} + 55PQ^{1273}R^{760} + 1470P^4Q^{1273}R^{759} + 1295P^7Q^{1273}R^{758} + \\
& 1706P^{10}Q^{1273}R^{757} + 1626P^2Q^{1274}R^{759} + 695P^5Q^{1274}R^{758} + 547P^8Q^{1274}R^{757} + \\
& 2288Q^{1275}R^{759} + 34P^3Q^{1275}R^{758} + 2348P^6Q^{1275}R^{757} + 791P^9Q^{1275}R^{756} + 172PQ^{1276}R^{758} + \\
& 1206P^4Q^{1276}R^{757} + 62P^7Q^{1276}R^{756} + 628P^{10}Q^{1276}R^{755} + 1495P^2Q^{1277}R^{757} + 507P^5Q^{1277}R^{756} + \\
& 1329P^8Q^{1277}R^{755} + 767Q^{1278}R^{757} + 1786P^3Q^{1278}R^{756} + 1684P^6Q^{1278}R^{755} + 1732P^9Q^{1278}R^{754} + \\
& 2374PQ^{1279}R^{756} + 305P^4Q^{1279}R^{755} + 1720P^7Q^{1279}R^{754} + 400P^{10}Q^{1279}R^{753} + 439P^2Q^{1280}R^{755} + \\
& 475P^5Q^{1280}R^{754} + 620P^8Q^{1280}R^{753} + 831Q^{1281}R^{755} + 1683P^3Q^{1281}R^{754} + 263P^6Q^{1281}R^{753} + \\
& 215P^9Q^{1281}R^{752} + 557PQ^{1282}R^{754} + 1220P^4Q^{1282}R^{753} + 1158P^7Q^{1282}R^{752} + 469P^{10}Q^{1282}R^{751} + \\
& 1720P^2Q^{1283}R^{753} + 1004P^5Q^{1283}R^{752} + 2254P^8Q^{1283}R^{751} + 2084Q^{1284}R^{753} + 2378P^3Q^{1284}R^{752} + \\
& 598P^6Q^{1284}R^{751} + 1517P^9Q^{1284}R^{750} + 2275PQ^{1285}R^{752} + 475P^4Q^{1285}R^{751} + 367P^7Q^{1285}R^{750} + \\
& 812P^{10}Q^{1285}R^{749} + 2137P^2Q^{1286}R^{751} + 1743P^5Q^{1286}R^{750} + 376P^8Q^{1286}R^{749} + 1219Q^{1287}R^{751} + \\
& 1450P^3Q^{1287}R^{750} + 1131P^6Q^{1287}R^{749} + 1106P^9Q^{1287}R^{748} + 583PQ^{1288}R^{750} + 2030P^4Q^{1288}R^{749} + \\
& 728P^7Q^{1288}R^{748} + 1015P^{10}Q^{1288}R^{747} + 1512P^2Q^{1289}R^{749} + 325P^5Q^{1289}R^{748} + \\
& 2064P^8Q^{1289}R^{747} + 1088Q^{1290}R^{749} + 1065P^3Q^{1290}R^{748} + 1180P^6Q^{1290}R^{747} + 2088P^9Q^{1290}R^{746} +
\end{aligned}$$

$$\begin{aligned}
& 22PQ^{1291}R^{748} + 695P^4Q^{1291}R^{747} + 465P^7Q^{1291}R^{746} + 282P^{10}Q^{1291}R^{745} + 916P^2Q^{1292}R^{747} + \\
& 375P^5Q^{1292}R^{746} + 647P^8Q^{1292}R^{745} + 868Q^{1293}R^{747} + 492P^3Q^{1293}R^{746} + 1349P^6Q^{1293}R^{745} + \\
& 2046P^9Q^{1293}R^{744} + 1879PQ^{1294}R^{746} + 706P^4Q^{1294}R^{745} + 891P^7Q^{1294}R^{744} + 41P^{10}Q^{1294}R^{743} + \\
& 610P^2Q^{1295}R^{745} + 419P^5Q^{1295}R^{744} + 1003P^8Q^{1295}R^{743} + 870Q^{1296}R^{745} + 63P^3Q^{1296}R^{744} + \\
& 914P^6Q^{1296}R^{743} + 789P^9Q^{1296}R^{742} + 308PQ^{1297}R^{744} + 714P^4Q^{1297}R^{743} + 2322P^7Q^{1297}R^{742} + \\
& 1894P^{10}Q^{1297}R^{741} + 1871P^2Q^{1298}R^{743} + 2344P^5Q^{1298}R^{742} + 2244P^8Q^{1298}R^{741} + \\
& 818Q^{1299}R^{743} + 1743P^3Q^{1299}R^{742} + 207P^6Q^{1299}R^{741} + 1335P^9Q^{1299}R^{740} + 1375PQ^{1300}R^{742} + \\
& 2226P^4Q^{1300}R^{741} + 1156P^7Q^{1300}R^{740} + 1626P^{10}Q^{1300}R^{739} + 1284P^2Q^{1301}R^{741} + \\
& 396P^5Q^{1301}R^{740} + 1814P^8Q^{1301}R^{739} + 874Q^{1302}R^{741} + 2149P^3Q^{1302}R^{740} + 673P^6Q^{1302}R^{739} + \\
& 389P^9Q^{1302}R^{738} + 257PQ^{1303}R^{740} + 1073P^4Q^{1303}R^{739} + 1646P^7Q^{1303}R^{738} + 1019P^{10}Q^{1303}R^{737} + \\
& 248P^2Q^{1304}R^{739} + 2030P^5Q^{1304}R^{738} + 609P^8Q^{1304}R^{737} + 1764Q^{1305}R^{739} + 1972P^3Q^{1305}R^{738} + \\
& 1319P^6Q^{1305}R^{737} + 2192P^9Q^{1305}R^{736} + 2362PQ^{1306}R^{738} + 373P^4Q^{1306}R^{737} + 2214P^7Q^{1306}R^{736} + \\
& 1943P^{10}Q^{1306}R^{735} + 1605P^2Q^{1307}R^{737} + 222P^5Q^{1307}R^{736} + 449P^8Q^{1307}R^{735} + 1840Q^{1308}R^{737} + \\
& 1417P^3Q^{1308}R^{736} + 1534P^6Q^{1308}R^{735} + 1949P^9Q^{1308}R^{734} + 25PQ^{1309}R^{736} + 2088P^4Q^{1309}R^{735} + \\
& 1793P^7Q^{1309}R^{734} + 826P^{10}Q^{1309}R^{733} + 1284P^2Q^{1310}R^{735} + 2127P^5Q^{1310}R^{734} + \\
& 748P^8Q^{1310}R^{733} + 230Q^{1311}R^{735} + 1185P^3Q^{1311}R^{734} + 499P^6Q^{1311}R^{733} + 2303P^9Q^{1311}R^{732} + \\
& 1789PQ^{1312}R^{734} + 316P^4Q^{1312}R^{733} + 652P^7Q^{1312}R^{732} + 1252P^{10}Q^{1312}R^{731} + 1237P^2Q^{1313}R^{733} + \\
& 226P^5Q^{1313}R^{732} + 1249P^8Q^{1313}R^{731} + 142Q^{1314}R^{733} + 739P^3Q^{1314}R^{732} + 1224P^6Q^{1314}R^{731} + \\
& 181P^9Q^{1314}R^{730} + 615PQ^{1315}R^{732} + 761P^4Q^{1315}R^{731} + 78P^7Q^{1315}R^{730} + 1010P^{10}Q^{1315}R^{729} + \\
& 125P^2Q^{1316}R^{731} + 1730P^5Q^{1316}R^{730} + 1758P^8Q^{1316}R^{729} + 1231Q^{1317}R^{731} + 1908P^3Q^{1317}R^{730} + \\
& 912P^6Q^{1317}R^{729} + 1635P^9Q^{1317}R^{728} + 293PQ^{1318}R^{730} + 1380P^4Q^{1318}R^{729} + 2143P^7Q^{1318}R^{728} + \\
& 393P^{10}Q^{1318}R^{727} + 1648P^2Q^{1319}R^{729} + 2264P^5Q^{1319}R^{728} + 1759P^8Q^{1319}R^{727} + 808Q^{1320}R^{729} + \\
& 1458P^3Q^{1320}R^{728} + 1700P^6Q^{1320}R^{727} + 388P^9Q^{1320}R^{726} + 2065PQ^{1321}R^{728} + 2129P^4Q^{1321}R^{727} + \\
& 702P^7Q^{1321}R^{726} + 914P^{10}Q^{1321}R^{725} + 2334P^2Q^{1322}R^{727} + 121P^5Q^{1322}R^{726} + 978P^8Q^{1322}R^{725} + \\
& 1130Q^{1323}R^{727} + 2261P^3Q^{1323}R^{726} + 8P^6Q^{1323}R^{725} + 195P^9Q^{1323}R^{724} + 1412PQ^{1324}R^{726} + \\
& 2261P^4Q^{1324}R^{725} + 867P^7Q^{1324}R^{724} + 1760P^{10}Q^{1324}R^{723} + 1971P^2Q^{1325}R^{725} + \\
& 348P^5Q^{1325}R^{724} + 796P^8Q^{1325}R^{723} + 2296Q^{1326}R^{725} + 39P^3Q^{1326}R^{724} + 354P^6Q^{1326}R^{723} + \\
& 2161P^9Q^{1326}R^{722} + 381PQ^{1327}R^{724} + 1920P^4Q^{1327}R^{723} + 2053P^7Q^{1327}R^{722} + 641P^{10}Q^{1327}R^{721} + \\
& 1000P^2Q^{1328}R^{723} + 2130P^5Q^{1328}R^{722} + 149P^8Q^{1328}R^{721} + 1007Q^{1329}R^{723} + 1893P^3Q^{1329}R^{722} + \\
& 842P^6Q^{1329}R^{721} + 1360P^9Q^{1329}R^{720} + 440PQ^{1330}R^{722} + 1421P^4Q^{1330}R^{721} + 785P^7Q^{1330}R^{720} + \\
& 2355P^{10}Q^{1330}R^{719} + 1100P^2Q^{1331}R^{721} + 357P^5Q^{1331}R^{720} + 1285P^8Q^{1331}R^{719} + 1172Q^{1332}R^{721} + \\
& 1582P^3Q^{1332}R^{720} + 2095P^6Q^{1332}R^{719} + 412P^9Q^{1332}R^{718} + 1576PQ^{1333}R^{720} + 762P^4Q^{1333}R^{719} + \\
& 1809P^7Q^{1333}R^{718} + 1628P^{10}Q^{1333}R^{717} + 1502P^2Q^{1334}R^{719} + 1290P^5Q^{1334}R^{718} + \\
& 1597P^8Q^{1334}R^{717} + 300Q^{1335}R^{719} + 452P^3Q^{1335}R^{718} + 353P^6Q^{1335}R^{717} + 849P^9Q^{1335}R^{716} + \\
& 2153PQ^{1336}R^{718} + 2047P^4Q^{1336}R^{717} + 651P^7Q^{1336}R^{716} + 150P^{10}Q^{1336}R^{715} + 2287P^2Q^{1337}R^{717} + \\
& 409P^5Q^{1337}R^{716} + 2008P^8Q^{1337}R^{715} + 934Q^{1338}R^{717} + 1067P^3Q^{1338}R^{716} + 1306P^6Q^{1338}R^{715} + \\
& 74P^9Q^{1338}R^{714} + 1693PQ^{1339}R^{716} + 2157P^4Q^{1339}R^{715} + 34P^7Q^{1339}R^{714} + 1784P^{10}Q^{1339}R^{713} + \\
& 28P^2Q^{1340}R^{715} + 257P^5Q^{1340}R^{714} + 2119P^8Q^{1340}R^{713} + 933Q^{1341}R^{715} + 1278P^3Q^{1341}R^{714} + \\
& 710P^6Q^{1341}R^{713} + 1543P^9Q^{1341}R^{712} + 703PQ^{1342}R^{714} + 1184P^4Q^{1342}R^{713} + 1562P^7Q^{1342}R^{712} + \\
& 1979P^{10}Q^{1342}R^{711} + 36P^2Q^{1343}R^{713} + 1747P^5Q^{1343}R^{712} + 1049P^8Q^{1343}R^{711} + 1047Q^{1344}R^{713} + \\
& 441P^3Q^{1344}R^{712} + 332P^6Q^{1344}R^{711} + 351P^9Q^{1344}R^{710} + 273PQ^{1345}R^{712} + 859P^4Q^{1345}R^{711} + \\
& 1164P^7Q^{1345}R^{710} + 1009P^{10}Q^{1345}R^{709} + 1873P^2Q^{1346}R^{711} + 1252P^5Q^{1346}R^{710} + \\
& 648P^8Q^{1346}R^{709} + 1632Q^{1347}R^{711} + 696P^3Q^{1347}R^{710} + 1507P^6Q^{1347}R^{709} + 1875P^9Q^{1347}R^{708} + \\
& 1749PQ^{1348}R^{710} + 514P^4Q^{1348}R^{709} + 760P^7Q^{1348}R^{708} + 1952P^{10}Q^{1348}R^{707} + 1229P^2Q^{1349}R^{709} + \\
& 661P^5Q^{1349}R^{708} + 620P^8Q^{1349}R^{707} + 1546Q^{1350}R^{709} + 1124P^3Q^{1350}R^{708} + 1832P^6Q^{1350}R^{707} + \\
& 1772P^9Q^{1350}R^{706} + 891PQ^{1351}R^{708} + 1309P^4Q^{1351}R^{707} + 1607P^7Q^{1351}R^{706} + 399P^{10}Q^{1351}R^{705} + \\
& 545P^2Q^{1352}R^{707} + 1070P^5Q^{1352}R^{706} + 31P^8Q^{1352}R^{705} + 927Q^{1353}R^{707} + 1705P^3Q^{1353}R^{706} + \\
& 1746P^6Q^{1353}R^{705} + 225P^9Q^{1353}R^{704} + 615PQ^{1354}R^{706} + 1342P^4Q^{1354}R^{705} + 1962P^7Q^{1354}R^{704} + \\
& 1360P^{10}Q^{1354}R^{703} + 1126P^2Q^{1355}R^{705} + 1238P^5Q^{1355}R^{704} + 2049P^8Q^{1355}R^{703} + 7Q^{1356}R^{705} +
\end{aligned}$$

$$\begin{aligned}
& 1882P^3Q^{1356}R^{704} + 527P^6Q^{1356}R^{703} + 432P^9Q^{1356}R^{702} + 981PQ^{1357}R^{704} + 121P^4Q^{1357}R^{703} + \\
& 1825P^7Q^{1357}R^{702} + 656P^{10}Q^{1357}R^{701} + 1513P^2Q^{1358}R^{703} + 1929P^5Q^{1358}R^{702} + \\
& 1071P^8Q^{1358}R^{701} + 174Q^{1359}R^{703} + 399P^3Q^{1359}R^{702} + 584P^6Q^{1359}R^{701} + 100P^9Q^{1359}R^{700} + \\
& 1033PQ^{1360}R^{702} + 193P^4Q^{1360}R^{701} + 2119P^7Q^{1360}R^{700} + 537P^{10}Q^{1360}R^{699} + 1521P^2Q^{1361}R^{701} + \\
& 1043P^5Q^{1361}R^{700} + 50P^8Q^{1361}R^{699} + 2350Q^{1362}R^{701} + 122P^3Q^{1362}R^{700} + 1345P^6Q^{1362}R^{699} + \\
& 245P^9Q^{1362}R^{698} + 1844PQ^{1363}R^{700} + 155P^4Q^{1363}R^{699} + 2299P^7Q^{1363}R^{698} + 2254P^{10}Q^{1363}R^{697} + \\
& 142P^2Q^{1364}R^{699} + 1552P^5Q^{1364}R^{698} + 422P^8Q^{1364}R^{697} + 1344Q^{1365}R^{699} + 1586P^3Q^{1365}R^{698} + \\
& 1753P^6Q^{1365}R^{697} + 2235P^9Q^{1365}R^{696} + 1086PQ^{1366}R^{698} + 277P^4Q^{1366}R^{697} + 1232P^7Q^{1366}R^{696} + \\
& 384P^{10}Q^{1366}R^{695} + 1049P^2Q^{1367}R^{697} + 1711P^5Q^{1367}R^{696} + 165P^8Q^{1367}R^{695} + 236Q^{1368}R^{697} + \\
& 527P^3Q^{1368}R^{696} + 832P^6Q^{1368}R^{695} + 1474P^9Q^{1368}R^{694} + 338PQ^{1369}R^{696} + 765P^4Q^{1369}R^{695} + \\
& 1220P^7Q^{1369}R^{694} + 1174P^{10}Q^{1369}R^{693} + 1781P^2Q^{1370}R^{695} + 983P^5Q^{1370}R^{694} + \\
& 1446P^8Q^{1370}R^{693} + 1750Q^{1371}R^{695} + 14P^3Q^{1371}R^{694} + 2136P^6Q^{1371}R^{693} + 1510P^9Q^{1371}R^{692} + \\
& 2224PQ^{1372}R^{694} + 1158P^4Q^{1372}R^{693} + 1056P^7Q^{1372}R^{692} + 1723P^{10}Q^{1372}R^{691} + \\
& 230P^2Q^{1373}R^{693} + 1043P^5Q^{1373}R^{692} + 2130P^8Q^{1373}R^{691} + 1060Q^{1374}R^{693} + 217P^3Q^{1374}R^{692} + \\
& 266P^6Q^{1374}R^{691} + 1074P^9Q^{1374}R^{690} + 438PQ^{1375}R^{692} + 1342P^4Q^{1375}R^{691} + 387P^7Q^{1375}R^{690} + \\
& 1307P^{10}Q^{1375}R^{689} + 1710P^2Q^{1376}R^{691} + 1324P^5Q^{1376}R^{690} + 2371P^8Q^{1376}R^{689} + 1419Q^{1377}R^{691} + \\
& 934P^3Q^{1377}R^{690} + 672P^6Q^{1377}R^{689} + 2117P^9Q^{1377}R^{688} + 1594PQ^{1378}R^{690} + 1105P^4Q^{1378}R^{689} + \\
& 310P^7Q^{1378}R^{688} + 2379P^{10}Q^{1378}R^{687} + 1988P^2Q^{1379}R^{689} + 749P^5Q^{1379}R^{688} + 702P^8Q^{1379}R^{687} + \\
& 1296Q^{1380}R^{689} + 1309P^3Q^{1380}R^{688} + 599P^6Q^{1380}R^{687} + 1078P^9Q^{1380}R^{686} + 1005PQ^{1381}R^{688} + \\
& 445P^4Q^{1381}R^{687} + 1868P^7Q^{1381}R^{686} + 2099P^{10}Q^{1381}R^{685} + 1043P^2Q^{1382}R^{687} + \\
& 653P^5Q^{1382}R^{686} + 820P^8Q^{1382}R^{685} + 633Q^{1383}R^{687} + 1085P^3Q^{1383}R^{686} + 1497P^6Q^{1383}R^{685} + \\
& 1425P^9Q^{1383}R^{684} + 2347PQ^{1384}R^{686} + 753P^4Q^{1384}R^{685} + 2292P^7Q^{1384}R^{684} + \\
& 2112P^{10}Q^{1384}R^{683} + 941P^2Q^{1385}R^{685} + 1791P^5Q^{1385}R^{684} + 1688P^8Q^{1385}R^{683} + 2023Q^{1386}R^{685} + \\
& 1321P^3Q^{1386}R^{684} + 1403P^6Q^{1386}R^{683} + 1840P^9Q^{1386}R^{682} + 687PQ^{1387}R^{684} + 1868P^4Q^{1387}R^{683} + \\
& 436P^7Q^{1387}R^{682} + 2122P^{10}Q^{1387}R^{681} + 1839P^2Q^{1388}R^{683} + 583P^5Q^{1388}R^{682} + \\
& 167P^8Q^{1388}R^{681} + 999Q^{1389}R^{683} + 1532P^3Q^{1389}R^{682} + 1814P^6Q^{1389}R^{681} + 1138P^9Q^{1389}R^{680} + \\
& 1461PQ^{1390}R^{682} + 899P^4Q^{1390}R^{681} + 93P^7Q^{1390}R^{680} + 615P^{10}Q^{1390}R^{679} + 191P^2Q^{1391}R^{681} + \\
& 1398P^5Q^{1391}R^{680} + 19P^8Q^{1391}R^{679} + 848Q^{1392}R^{681} + 223P^3Q^{1392}R^{680} + 625P^6Q^{1392}R^{679} + \\
& 1964P^9Q^{1392}R^{678} + 1600PQ^{1393}R^{680} + 441P^4Q^{1393}R^{679} + 1336P^7Q^{1393}R^{678} + 796P^{10}Q^{1393}R^{677} + \\
& 809P^2Q^{1394}R^{679} + 1758P^5Q^{1394}R^{678} + 1235P^8Q^{1394}R^{677} + 834Q^{1395}R^{679} + 638P^3Q^{1395}R^{678} + \\
& 387P^6Q^{1395}R^{677} + 426P^9Q^{1395}R^{676} + 1358PQ^{1396}R^{678} + 1098P^4Q^{1396}R^{677} + 153P^7Q^{1396}R^{676} + \\
& 959P^{10}Q^{1396}R^{675} + 1370P^2Q^{1397}R^{677} + 1138P^5Q^{1397}R^{676} + 1564P^8Q^{1397}R^{675} + \\
& 1109Q^{1398}R^{677} + 1510P^3Q^{1398}R^{676} + 1988P^6Q^{1398}R^{675} + 215P^9Q^{1398}R^{674} + 773PQ^{1399}R^{676} + \\
& 2156P^4Q^{1399}R^{675} + 1865P^7Q^{1399}R^{674} + 2100P^{10}Q^{1399}R^{673} + 1109P^2Q^{1400}R^{675} + \\
& 347P^5Q^{1400}R^{674} + 2288P^8Q^{1400}R^{673} + 1974Q^{1401}R^{675} + 351P^3Q^{1401}R^{674} + 1017P^6Q^{1401}R^{673} + \\
& 1124P^9Q^{1401}R^{672} + 2021PQ^{1402}R^{674} + 2186P^4Q^{1402}R^{673} + 331P^7Q^{1402}R^{672} + 409P^{10}Q^{1402}R^{671} + \\
& 1551P^2Q^{1403}R^{673} + 1785P^5Q^{1403}R^{672} + 1255P^8Q^{1403}R^{671} + 274Q^{1404}R^{673} + 1800P^3Q^{1404}R^{672} + \\
& 2300P^6Q^{1404}R^{671} + 1420P^9Q^{1404}R^{670} + 1843PQ^{1405}R^{672} + 2258P^4Q^{1405}R^{671} + \\
& 1372P^7Q^{1405}R^{670} + 1721P^{10}Q^{1405}R^{669} + 499P^2Q^{1406}R^{671} + 2251P^5Q^{1406}R^{670} + \\
& 363P^8Q^{1406}R^{669} + 345Q^{1407}R^{671} + 41P^3Q^{1407}R^{670} + 39P^6Q^{1407}R^{669} + 2254P^9Q^{1407}R^{668} + \\
& 217PQ^{1408}R^{670} + 1372P^4Q^{1408}R^{669} + 474P^7Q^{1408}R^{668} + 2041P^{10}Q^{1408}R^{667} + 1829P^2Q^{1409}R^{669} + \\
& 1422P^5Q^{1409}R^{668} + 971P^8Q^{1409}R^{667} + 1146Q^{1410}R^{669} + 2091P^3Q^{1410}R^{668} + 2407P^6Q^{1410}R^{667} + \\
& 729P^9Q^{1410}R^{666} + 362PQ^{1411}R^{668} + 428P^4Q^{1411}R^{667} + 1070P^7Q^{1411}R^{666} + 280P^{10}Q^{1411}R^{665} + \\
& 2343P^2Q^{1412}R^{667} + 774P^5Q^{1412}R^{666} + 776P^8Q^{1412}R^{665} + 1243Q^{1413}R^{667} + 979P^3Q^{1413}R^{666} + \\
& 1386P^6Q^{1413}R^{665} + 1578P^9Q^{1413}R^{664} + 935PQ^{1414}R^{666} + 1786P^4Q^{1414}R^{665} + 342P^7Q^{1414}R^{664} + \\
& 605P^{10}Q^{1414}R^{663} + 1321P^2Q^{1415}R^{665} + 35P^5Q^{1415}R^{664} + 795P^8Q^{1415}R^{663} + 44Q^{1416}R^{665} + \\
& 1079P^3Q^{1416}R^{664} + 694P^6Q^{1416}R^{663} + 689P^9Q^{1416}R^{662} + 745PQ^{1417}R^{664} + 933P^4Q^{1417}R^{663} + \\
& 1047P^7Q^{1417}R^{662} + 1428P^{10}Q^{1417}R^{661} + 900P^2Q^{1418}R^{663} + 1670P^5Q^{1418}R^{662} + \\
& 1580P^8Q^{1418}R^{661} + 2405Q^{1419}R^{663} + 278P^3Q^{1419}R^{662} + 289P^6Q^{1419}R^{661} + 1531P^9Q^{1419}R^{660} +
\end{aligned}$$

$$\begin{aligned}
& 2389PQ^{1420}R^{662} + 1832P^4Q^{1420}R^{661} + 1850P^7Q^{1420}R^{660} + 738P^{10}Q^{1420}R^{659} + \\
& 1445P^2Q^{1421}R^{661} + 259P^5Q^{1421}R^{660} + 684P^8Q^{1421}R^{659} + 1982Q^{1422}R^{661} + 339P^3Q^{1422}R^{660} + \\
& 1461P^6Q^{1422}R^{659} + 47P^9Q^{1422}R^{658} + 1827PQ^{1423}R^{660} + 141P^4Q^{1423}R^{659} + 2105P^7Q^{1423}R^{658} + \\
& 983P^{10}Q^{1423}R^{657} + 986P^2Q^{1424}R^{659} + 445P^5Q^{1424}R^{658} + 1475P^8Q^{1424}R^{657} + 2279Q^{1425}R^{659} + \\
& 1143P^3Q^{1425}R^{658} + 1507P^6Q^{1425}R^{657} + 2071P^9Q^{1425}R^{656} + 508PQ^{1426}R^{658} + 2026P^4Q^{1426}R^{657} + \\
& 1724P^7Q^{1426}R^{656} + 1959P^{10}Q^{1426}R^{655} + 1819P^2Q^{1427}R^{657} + 1765P^5Q^{1427}R^{656} + \\
& 1692P^8Q^{1427}R^{655} + 1832Q^{1428}R^{657} + 317P^3Q^{1428}R^{656} + 1630P^6Q^{1428}R^{655} + 391P^9Q^{1428}R^{654} + \\
& 1252PQ^{1429}R^{656} + 509P^4Q^{1429}R^{655} + 1636P^7Q^{1429}R^{654} + 194P^{10}Q^{1429}R^{653} + 363P^2Q^{1430}R^{655} + \\
& 515P^5Q^{1430}R^{654} + 1991P^8Q^{1430}R^{653} + 1107Q^{1431}R^{655} + 168P^3Q^{1431}R^{654} + 1423P^6Q^{1431}R^{653} + \\
& 1017P^9Q^{1431}R^{652} + 1933PQ^{1432}R^{654} + 1588P^4Q^{1432}R^{653} + 1573P^7Q^{1432}R^{652} + \\
& 208P^{10}Q^{1432}R^{651} + 536P^2Q^{1433}R^{653} + 1940P^5Q^{1433}R^{652} + 1973P^8Q^{1433}R^{651} + 1619Q^{1434}R^{653} + \\
& 1640P^3Q^{1434}R^{652} + 1894P^6Q^{1434}R^{651} + 2381P^9Q^{1434}R^{650} + 258PQ^{1435}R^{652} + 657P^4Q^{1435}R^{651} + \\
& 1356P^7Q^{1435}R^{650} + 2109P^{10}Q^{1435}R^{649} + 1166P^2Q^{1436}R^{651} + 1959P^5Q^{1436}R^{650} + \\
& 1604P^8Q^{1436}R^{649} + 1398Q^{1437}R^{651} + 2400P^3Q^{1437}R^{650} + 1538P^6Q^{1437}R^{649} + 2065P^9Q^{1437}R^{648} + \\
& 1359PQ^{1438}R^{650} + 118P^4Q^{1438}R^{649} + 632P^7Q^{1438}R^{648} + 896P^{10}Q^{1438}R^{647} + 2024P^2Q^{1439}R^{649} + \\
& 665P^5Q^{1439}R^{648} + 582P^8Q^{1439}R^{647} + 1135Q^{1440}R^{649} + 1944P^3Q^{1440}R^{648} + 2217P^6Q^{1440}R^{647} + \\
& 43P^9Q^{1440}R^{646} + 309PQ^{1441}R^{648} + 1993P^4Q^{1441}R^{647} + 928P^7Q^{1441}R^{646} + 2115P^{10}Q^{1441}R^{645} + \\
& 894P^2Q^{1442}R^{647} + 2220P^5Q^{1442}R^{646} + 196P^8Q^{1442}R^{645} + 446Q^{1443}R^{647} + 1616P^3Q^{1443}R^{646} + \\
& 691P^6Q^{1443}R^{645} + 224P^9Q^{1443}R^{644} + 2130PQ^{1444}R^{646} + 1039P^4Q^{1444}R^{645} + 785P^7Q^{1444}R^{644} + \\
& 2222P^{10}Q^{1444}R^{643} + 1924P^2Q^{1445}R^{645} + 1837P^5Q^{1445}R^{644} + 1909P^8Q^{1445}R^{643} + \\
& 198Q^{1446}R^{645} + 2082P^3Q^{1446}R^{644} + 1229P^6Q^{1446}R^{643} + 630P^9Q^{1446}R^{642} + 2064PQ^{1447}R^{644} + \\
& 1042P^4Q^{1447}R^{643} + 1237P^7Q^{1447}R^{642} + 441P^{10}Q^{1447}R^{641} + 1558P^2Q^{1448}R^{643} + \\
& 2350P^5Q^{1448}R^{642} + 461P^8Q^{1448}R^{641} + 132Q^{1449}R^{643} + 2289P^3Q^{1449}R^{642} + 321P^6Q^{1449}R^{641} + \\
& 406P^9Q^{1449}R^{640} + 1024PQ^{1450}R^{642} + 319P^4Q^{1450}R^{641} + 1609P^7Q^{1450}R^{640} + 406P^{10}Q^{1450}R^{639} + \\
& 783P^2Q^{1451}R^{641} + 1295P^5Q^{1451}R^{640} + 1439P^8Q^{1451}R^{639} + 1111Q^{1452}R^{641} + 110P^3Q^{1452}R^{640} + \\
& 1692P^6Q^{1452}R^{639} + 1303P^9Q^{1452}R^{638} + 1953PQ^{1453}R^{640} + 920P^4Q^{1453}R^{639} + 1825P^7Q^{1453}R^{638} + \\
& 331P^{10}Q^{1453}R^{637} + 580P^2Q^{1454}R^{639} + 809P^5Q^{1454}R^{638} + 1099P^8Q^{1454}R^{637} + 512Q^{1455}R^{639} + \\
& 201P^3Q^{1455}R^{638} + 2048P^6Q^{1455}R^{637} + 1287P^9Q^{1455}R^{636} + 763PQ^{1456}R^{638} + 1405P^4Q^{1456}R^{637} + \\
& 87P^7Q^{1456}R^{636} + 1489P^{10}Q^{1456}R^{635} + 1036P^2Q^{1457}R^{637} + 877P^5Q^{1457}R^{636} + 1642P^8Q^{1457}R^{635} + \\
& 851Q^{1458}R^{637} + 2177P^3Q^{1458}R^{636} + 1301P^6Q^{1458}R^{635} + 1829P^9Q^{1458}R^{634} + 1149PQ^{1459}R^{636} + \\
& 2005P^4Q^{1459}R^{635} + 963P^7Q^{1459}R^{634} + 1495P^{10}Q^{1459}R^{633} + 1173P^2Q^{1460}R^{635} + \\
& 1875P^5Q^{1460}R^{634} + 1169P^8Q^{1460}R^{633} + 1452Q^{1461}R^{635} + 290P^3Q^{1461}R^{634} + 786P^6Q^{1461}R^{633} + \\
& 1550P^9Q^{1461}R^{632} + 363PQ^{1462}R^{634} + 342P^4Q^{1462}R^{633} + 1927P^7Q^{1462}R^{632} + 1409P^{10}Q^{1462}R^{631} + \\
& 1733P^2Q^{1463}R^{633} + 1462P^5Q^{1463}R^{632} + 2121P^8Q^{1463}R^{631} + 1549Q^{1464}R^{633} + 680P^3Q^{1464}R^{632} + \\
& 1866P^6Q^{1464}R^{631} + 1264P^9Q^{1464}R^{630} + 716PQ^{1465}R^{632} + 1854P^4Q^{1465}R^{631} + 1536P^7Q^{1465}R^{630} + \\
& 641P^{10}Q^{1465}R^{629} + 2295P^2Q^{1466}R^{631} + 1061P^5Q^{1466}R^{630} + 714P^8Q^{1466}R^{629} + 2009Q^{1467}R^{631} + \\
& 1579P^3Q^{1467}R^{630} + 891P^6Q^{1467}R^{629} + 1531P^9Q^{1467}R^{628} + 189PQ^{1468}R^{630} + 1325P^4Q^{1468}R^{629} + \\
& 2156P^7Q^{1468}R^{628} + 965P^{10}Q^{1468}R^{627} + 2349P^2Q^{1469}R^{629} + 173P^5Q^{1469}R^{628} + \\
& 1817P^8Q^{1469}R^{627} + 1746Q^{1470}R^{629} + 155P^3Q^{1470}R^{628} + 1669P^6Q^{1470}R^{627} + 2308P^9Q^{1470}R^{626} + \\
& 34PQ^{1471}R^{628} + 2234P^4Q^{1471}R^{627} + 298P^7Q^{1471}R^{626} + 1374P^{10}Q^{1471}R^{625} + 1357P^2Q^{1472}R^{627} + \\
& 708P^5Q^{1472}R^{626} + 1571P^8Q^{1472}R^{625} + 1318Q^{1473}R^{627} + 515P^3Q^{1473}R^{626} + 2164P^6Q^{1473}R^{625} + \\
& 2312P^9Q^{1473}R^{624} + 1188PQ^{1474}R^{626} + 2288P^4Q^{1474}R^{625} + 2106P^7Q^{1474}R^{624} + \\
& 1634P^{10}Q^{1474}R^{623} + 1023P^2Q^{1475}R^{625} + 1251P^5Q^{1475}R^{624} + 936P^8Q^{1475}R^{623} + \\
& 1865Q^{1476}R^{625} + 1634P^3Q^{1476}R^{624} + 485P^6Q^{1476}R^{623} + 503P^9Q^{1476}R^{622} + 2065PQ^{1477}R^{624} + \\
& 1746P^4Q^{1477}R^{623} + 1557P^7Q^{1477}R^{622} + 608P^{10}Q^{1477}R^{621} + 1972P^2Q^{1478}R^{623} + 63P^5Q^{1478}R^{622} + \\
& 1046P^8Q^{1478}R^{621} + 673Q^{1479}R^{623} + 1768P^3Q^{1479}R^{622} + 418P^6Q^{1479}R^{621} + 546P^9Q^{1479}R^{620} + \\
& 1885PQ^{1480}R^{622} + 1065P^4Q^{1480}R^{621} + 2251P^7Q^{1480}R^{620} + 1231P^{10}Q^{1480}R^{619} + \\
& 2377P^2Q^{1481}R^{621} + 1116P^5Q^{1481}R^{620} + 1613P^8Q^{1481}R^{619} + 2125Q^{1482}R^{621} + 1904P^3Q^{1482}R^{620} + \\
& 1580P^6Q^{1482}R^{619} + 2101P^9Q^{1482}R^{618} + 2309PQ^{1483}R^{620} + 1910P^4Q^{1483}R^{619} + 148P^7Q^{1483}R^{618} +
\end{aligned}$$

$$\begin{aligned}
& 2232P^{10}Q^{1483}R^{617} + 2008P^2Q^{1484}R^{619} + 885P^5Q^{1484}R^{618} + 1802P^8Q^{1484}R^{617} + \\
& 440Q^{1485}R^{619} + 2087P^3Q^{1485}R^{618} + 661P^6Q^{1485}R^{617} + 1171P^9Q^{1485}R^{616} + 1125PQ^{1486}R^{618} + \\
& 679P^4Q^{1486}R^{617} + 1718P^7Q^{1486}R^{616} + 2257P^{10}Q^{1486}R^{615} + 185P^2Q^{1487}R^{617} + \\
& 2109P^5Q^{1487}R^{616} + 732P^8Q^{1487}R^{615} + 2084Q^{1488}R^{617} + 1412P^3Q^{1488}R^{616} + 848P^6Q^{1488}R^{615} + \\
& 2279P^9Q^{1488}R^{614} + 2165PQ^{1489}R^{616} + 1327P^4Q^{1489}R^{615} + 1304P^7Q^{1489}R^{614} + 29P^{10}Q^{1489}R^{613} + \\
& 62P^2Q^{1490}R^{615} + 1852P^5Q^{1490}R^{614} + 25P^8Q^{1490}R^{613} + 562Q^{1491}R^{615} + 1312P^3Q^{1491}R^{614} + \\
& 334P^6Q^{1491}R^{613} + 1629P^9Q^{1491}R^{612} + 1139PQ^{1492}R^{614} + 1134P^4Q^{1492}R^{613} + 42P^7Q^{1492}R^{612} + \\
& 1745P^{10}Q^{1492}R^{611} + 2249P^2Q^{1493}R^{613} + 1384P^5Q^{1493}R^{612} + 1658P^8Q^{1493}R^{611} + \\
& 239Q^{1494}R^{613} + 1669P^3Q^{1494}R^{612} + 2096P^6Q^{1494}R^{611} + 1515P^9Q^{1494}R^{610} + 1130PQ^{1495}R^{612} + \\
& 835P^4Q^{1495}R^{611} + 1370P^7Q^{1495}R^{610} + 1279P^{10}Q^{1495}R^{609} + 1897P^2Q^{1496}R^{611} + \\
& 2106P^5Q^{1496}R^{610} + 1108P^8Q^{1496}R^{609} + 1652Q^{1497}R^{611} + 2198P^3Q^{1497}R^{610} + 1260P^6Q^{1497}R^{609} + \\
& 1753P^9Q^{1497}R^{608} + 2325PQ^{1498}R^{610} + 1435P^4Q^{1498}R^{609} + 1345P^7Q^{1498}R^{608} + \\
& 1845P^{10}Q^{1498}R^{607} + 1952P^2Q^{1499}R^{609} + 1038P^5Q^{1499}R^{608} + 1577P^8Q^{1499}R^{607} + \\
& 954Q^{1500}R^{609} + 93P^3Q^{1500}R^{608} + 2091P^6Q^{1500}R^{607} + 2082P^9Q^{1500}R^{606} + 1499PQ^{1501}R^{608} + \\
& 1098P^4Q^{1501}R^{607} + 2189P^7Q^{1501}R^{606} + 118P^{10}Q^{1501}R^{605} + 2149P^2Q^{1502}R^{607} + \\
& 1055P^5Q^{1502}R^{606} + 2130P^8Q^{1502}R^{605} + 2327Q^{1503}R^{607} + 1152P^3Q^{1503}R^{606} + 744P^6Q^{1503}R^{605} + \\
& 554P^9Q^{1503}R^{604} + 779PQ^{1504}R^{606} + 2297P^4Q^{1504}R^{605} + 1161P^7Q^{1504}R^{604} + 300P^{10}Q^{1504}R^{603} + \\
& 564P^2Q^{1505}R^{605} + 54P^5Q^{1505}R^{604} + 659P^8Q^{1505}R^{603} + 2366Q^{1506}R^{605} + 1899P^3Q^{1506}R^{604} + \\
& 637P^6Q^{1506}R^{603} + 290P^9Q^{1506}R^{602} + 217PQ^{1507}R^{604} + 192P^4Q^{1507}R^{603} + 1247P^7Q^{1507}R^{602} + \\
& 2091P^{10}Q^{1507}R^{601} + 2298P^2Q^{1508}R^{603} + 924P^5Q^{1508}R^{602} + 1639P^8Q^{1508}R^{601} + \\
& 1606Q^{1509}R^{603} + 1106P^3Q^{1509}R^{602} + 1957P^6Q^{1509}R^{601} + 632P^9Q^{1509}R^{600} + 1462PQ^{1510}R^{602} + \\
& 1384P^4Q^{1510}R^{601} + 1955P^7Q^{1510}R^{600} + 1807P^{10}Q^{1510}R^{599} + 1045P^2Q^{1511}R^{601} + \\
& 482P^5Q^{1511}R^{600} + 177P^8Q^{1511}R^{599} + 164Q^{1512}R^{601} + 1145P^3Q^{1512}R^{600} + 864P^6Q^{1512}R^{599} + \\
& 997P^9Q^{1512}R^{598} + 693PQ^{1513}R^{600} + 1806P^4Q^{1513}R^{599} + 219P^7Q^{1513}R^{598} + 1897P^{10}Q^{1513}R^{597} + \\
& 864P^2Q^{1514}R^{599} + 2127P^5Q^{1514}R^{598} + 990P^8Q^{1514}R^{597} + 1775Q^{1515}R^{599} + 1091P^3Q^{1515}R^{598} + \\
& 2399P^6Q^{1515}R^{597} + 945P^9Q^{1515}R^{596} + 1677PQ^{1516}R^{598} + 2055P^4Q^{1516}R^{597} + 316P^7Q^{1516}R^{596} + \\
& 1885P^{10}Q^{1516}R^{595} + 2022P^2Q^{1517}R^{597} + 1803P^5Q^{1517}R^{596} + 1639P^8Q^{1517}R^{595} + \\
& 20Q^{1518}R^{597} + 119P^3Q^{1518}R^{596} + 875P^6Q^{1518}R^{595} + 1377P^9Q^{1518}R^{594} + 1801PQ^{1519}R^{596} + \\
& 622P^4Q^{1519}R^{595} + 2079P^7Q^{1519}R^{594} + 916P^{10}Q^{1519}R^{593} + 2044P^2Q^{1520}R^{595} + 742P^5Q^{1520}R^{594} + \\
& 990P^8Q^{1520}R^{593} + 2370Q^{1521}R^{595} + 224P^3Q^{1521}R^{594} + 1339P^6Q^{1521}R^{593} + 427P^9Q^{1521}R^{592} + \\
& 135PQ^{1522}R^{594} + 84P^4Q^{1522}R^{593} + 2220P^7Q^{1522}R^{592} + 833P^{10}Q^{1522}R^{591} + 1482P^2Q^{1523}R^{593} + \\
& 319P^5Q^{1523}R^{592} + 1278P^8Q^{1523}R^{591} + 2346Q^{1524}R^{593} + 991P^3Q^{1524}R^{592} + 324P^6Q^{1524}R^{591} + \\
& 1P^9Q^{1524}R^{590} + 1428PQ^{1525}R^{592} + 1189P^4Q^{1525}R^{591} + 954P^7Q^{1525}R^{590} + 1392P^{10}Q^{1525}R^{589} + \\
& 1877P^2Q^{1526}R^{591} + 715P^5Q^{1526}R^{590} + 2066P^8Q^{1526}R^{589} + 2361Q^{1527}R^{591} + 8P^3Q^{1527}R^{590} + \\
& 2177P^6Q^{1527}R^{589} + 1302P^9Q^{1527}R^{588} + 1111PQ^{1528}R^{590} + 1949P^4Q^{1528}R^{589} + 871P^7Q^{1528}R^{588} + \\
& 1189P^{10}Q^{1528}R^{587} + 1894P^2Q^{1529}R^{589} + 480P^5Q^{1529}R^{588} + 1537P^8Q^{1529}R^{587} + 1605Q^{1530}R^{589} + \\
& 1637P^3Q^{1530}R^{588} + 1628P^6Q^{1530}R^{587} + 994P^9Q^{1530}R^{586} + 2307PQ^{1531}R^{588} + 1148P^4Q^{1531}R^{587} + \\
& 2113P^7Q^{1531}R^{586} + 625P^{10}Q^{1531}R^{585} + 525P^2Q^{1532}R^{587} + 466P^5Q^{1532}R^{586} + 2139P^8Q^{1532}R^{585} + \\
& 1718Q^{1533}R^{587} + 1348P^3Q^{1533}R^{586} + 1203P^6Q^{1533}R^{585} + 268P^9Q^{1533}R^{584} + 1286PQ^{1534}R^{586} + \\
& 1732P^4Q^{1534}R^{585} + 755P^7Q^{1534}R^{584} + 1927P^{10}Q^{1534}R^{583} + 2276P^2Q^{1535}R^{585} + \\
& 991P^5Q^{1535}R^{584} + 1670P^8Q^{1535}R^{583} + 1962Q^{1536}R^{585} + 1001P^3Q^{1536}R^{584} + 683P^6Q^{1536}R^{583} + \\
& 1043P^9Q^{1536}R^{582} + 2158PQ^{1537}R^{584} + 2028P^4Q^{1537}R^{583} + 1397P^7Q^{1537}R^{582} + \\
& 283P^{10}Q^{1537}R^{581} + 1585P^2Q^{1538}R^{583} + 176P^5Q^{1538}R^{582} + 473P^8Q^{1538}R^{581} + 52Q^{1539}R^{583} + \\
& 1972P^3Q^{1539}R^{582} + 1161P^6Q^{1539}R^{581} + 630P^9Q^{1539}R^{580} + 675PQ^{1540}R^{582} + 1238P^4Q^{1540}R^{581} + \\
& 564P^7Q^{1540}R^{580} + 1166P^{10}Q^{1540}R^{579} + 2119P^2Q^{1541}R^{581} + 2151P^5Q^{1541}R^{580} + \\
& 741P^8Q^{1541}R^{579} + 837Q^{1542}R^{581} + 1850P^3Q^{1542}R^{580} + 1736P^6Q^{1542}R^{579} + 205P^9Q^{1542}R^{578} + \\
& 1361PQ^{1543}R^{580} + 7P^4Q^{1543}R^{579} + 715P^7Q^{1543}R^{578} + 1802P^{10}Q^{1543}R^{577} + 787P^2Q^{1544}R^{579} + \\
& 714P^5Q^{1544}R^{578} + 2223P^8Q^{1544}R^{577} + 984Q^{1545}R^{579} + 1531P^3Q^{1545}R^{578} + 2008P^6Q^{1545}R^{577} + \\
& 411P^9Q^{1545}R^{576} + 200PQ^{1546}R^{578} + 1816P^4Q^{1546}R^{577} + 516P^7Q^{1546}R^{576} + 449P^{10}Q^{1546}R^{575} +
\end{aligned}$$

$$\begin{aligned}
& 794P^2Q^{1547}R^{577} + 2073P^5Q^{1547}R^{576} + 752P^8Q^{1547}R^{575} + 155Q^{1548}R^{577} + 717P^3Q^{1548}R^{576} + \\
& 1905P^6Q^{1548}R^{575} + 654P^9Q^{1548}R^{574} + 2029PQ^{1549}R^{576} + 1569P^4Q^{1549}R^{575} + 1381P^7Q^{1549}R^{574} + \\
& 1442P^{10}Q^{1549}R^{573} + 2335P^2Q^{1550}R^{575} + 1980P^5Q^{1550}R^{574} + 1764P^8Q^{1550}R^{573} + 1538Q^{1551}R^{575} + \\
& 613P^3Q^{1551}R^{574} + 2256P^6Q^{1551}R^{573} + 1199P^9Q^{1551}R^{572} + 835PQ^{1552}R^{574} + 361P^4Q^{1552}R^{573} + \\
& 1512P^7Q^{1552}R^{572} + 2361P^{10}Q^{1552}R^{571} + 217P^2Q^{1553}R^{573} + 1868P^5Q^{1553}R^{572} + \\
& 85P^8Q^{1553}R^{571} + 107Q^{1554}R^{573} + 2059P^3Q^{1554}R^{572} + 2021P^6Q^{1554}R^{571} + 2130P^9Q^{1554}R^{570} + \\
& 1741PQ^{1555}R^{572} + 311P^4Q^{1555}R^{571} + 1043P^7Q^{1555}R^{570} + 807P^{10}Q^{1555}R^{569} + 135P^2Q^{1556}R^{571} + \\
& 1260P^5Q^{1556}R^{570} + 921P^8Q^{1556}R^{569} + 291Q^{1557}R^{571} + 1473P^3Q^{1557}R^{570} + 1332P^6Q^{1557}R^{569} + \\
& 878P^9Q^{1557}R^{568} + 1171PQ^{1558}R^{570} + 2402P^4Q^{1558}R^{569} + 444P^7Q^{1558}R^{568} + 1723P^{10}Q^{1558}R^{567} + \\
& 1072P^2Q^{1559}R^{569} + 1305P^5Q^{1559}R^{568} + 1366P^8Q^{1559}R^{567} + 1736Q^{1560}R^{569} + 2350P^3Q^{1560}R^{568} + \\
& 1830P^6Q^{1560}R^{567} + 1474P^9Q^{1560}R^{566} + 348PQ^{1561}R^{568} + 1719P^4Q^{1561}R^{567} + 49P^7Q^{1561}R^{566} + \\
& 2254P^{10}Q^{1561}R^{565} + 1918P^2Q^{1562}R^{567} + 1723P^5Q^{1562}R^{566} + 2073P^8Q^{1562}R^{565} + \\
& 630Q^{1563}R^{567} + 2333P^3Q^{1563}R^{566} + 2376P^6Q^{1563}R^{565} + 2182P^9Q^{1563}R^{564} + 2006PQ^{1564}R^{566} + \\
& 376P^4Q^{1564}R^{565} + 2058P^7Q^{1564}R^{564} + 793P^{10}Q^{1564}R^{563} + 666P^2Q^{1565}R^{565} + 1878P^5Q^{1565}R^{564} + \\
& 375P^8Q^{1565}R^{563} + 1144Q^{1566}R^{565} + 2069P^3Q^{1566}R^{564} + 1189P^6Q^{1566}R^{563} + 2181P^9Q^{1566}R^{562} + \\
& 1395PQ^{1567}R^{564} + 661P^4Q^{1567}R^{563} + 854P^7Q^{1567}R^{562} + 605P^{10}Q^{1567}R^{561} + 1560P^2Q^{1568}R^{563} + \\
& 1551P^5Q^{1568}R^{562} + 2352P^8Q^{1568}R^{561} + 1008Q^{1569}R^{563} + 1466P^3Q^{1569}R^{562} + 474P^6Q^{1569}R^{561} + \\
& 1146P^9Q^{1569}R^{560} + 954PQ^{1570}R^{562} + 1465P^4Q^{1570}R^{561} + 970P^7Q^{1570}R^{560} + 261P^{10}Q^{1570}R^{559} + \\
& 353P^2Q^{1571}R^{561} + 1981P^5Q^{1571}R^{560} + 266P^8Q^{1571}R^{559} + 114Q^{1572}R^{561} + 175P^3Q^{1572}R^{560} + \\
& 1981P^6Q^{1572}R^{559} + 1250P^9Q^{1572}R^{558} + 1476PQ^{1573}R^{560} + 2134P^4Q^{1573}R^{559} + 680P^7Q^{1573}R^{558} + \\
& 560P^{10}Q^{1573}R^{557} + 94P^2Q^{1574}R^{559} + 91P^5Q^{1574}R^{558} + 118P^8Q^{1574}R^{557} + 1661Q^{1575}R^{559} + \\
& 2295P^3Q^{1575}R^{558} + 1428P^6Q^{1575}R^{557} + 1181P^9Q^{1575}R^{556} + 1106PQ^{1576}R^{558} + \\
& 2235P^4Q^{1576}R^{557} + 2173P^7Q^{1576}R^{556} + 2387P^{10}Q^{1576}R^{555} + 1414P^2Q^{1577}R^{557} + \\
& 1716P^5Q^{1577}R^{556} + 2370P^8Q^{1577}R^{555} + 338Q^{1578}R^{557} + 1848P^3Q^{1578}R^{556} + 24P^6Q^{1578}R^{555} + \\
& 1398P^9Q^{1578}R^{554} + 417PQ^{1579}R^{556} + 2033P^4Q^{1579}R^{555} + 2039P^7Q^{1579}R^{554} + 800P^{10}Q^{1579}R^{553} + \\
& 171P^2Q^{1580}R^{555} + 1897P^5Q^{1580}R^{554} + 2052P^8Q^{1580}R^{553} + 527Q^{1581}R^{555} + 2315P^3Q^{1581}R^{554} + \\
& 499P^6Q^{1581}R^{553} + 1366P^9Q^{1581}R^{552} + 1561PQ^{1582}R^{554} + 360P^4Q^{1582}R^{553} + 2374P^7Q^{1582}R^{552} + \\
& 723P^{10}Q^{1582}R^{551} + 1170P^2Q^{1583}R^{553} + 1000P^5Q^{1583}R^{552} + 1472P^8Q^{1583}R^{551} + \\
& 711Q^{1584}R^{553} + 216P^3Q^{1584}R^{552} + 1848P^6Q^{1584}R^{551} + 1901P^9Q^{1584}R^{550} + 2055PQ^{1585}R^{552} + \\
& 1571P^4Q^{1585}R^{551} + 1844P^7Q^{1585}R^{550} + 493P^{10}Q^{1585}R^{549} + 1914P^2Q^{1586}R^{551} + \\
& 1631P^5Q^{1586}R^{550} + 1099P^8Q^{1586}R^{549} + 1393Q^{1587}R^{551} + 1768P^3Q^{1587}R^{550} + 1689P^6Q^{1587}R^{549} + \\
& 289P^9Q^{1587}R^{548} + 897PQ^{1588}R^{550} + 1832P^4Q^{1588}R^{549} + 1105P^7Q^{1588}R^{548} + 1323P^{10}Q^{1588}R^{547} + \\
& 2357P^2Q^{1589}R^{549} + 330P^5Q^{1589}R^{548} + 960P^8Q^{1589}R^{547} + 2045Q^{1590}R^{549} + 1917P^3Q^{1590}R^{548} + \\
& 641P^6Q^{1590}R^{547} + 1002P^9Q^{1590}R^{546} + 1718PQ^{1591}R^{548} + 433P^4Q^{1591}R^{547} + 1171P^7Q^{1591}R^{546} + \\
& 1791P^{10}Q^{1591}R^{545} + 1698P^2Q^{1592}R^{547} + 1568P^5Q^{1592}R^{546} + 2074P^8Q^{1592}R^{545} + 1514Q^{1593}R^{547} + \\
& 1236P^3Q^{1593}R^{546} + 2343P^6Q^{1593}R^{545} + 555P^9Q^{1593}R^{544} + 816PQ^{1594}R^{546} + 2189P^4Q^{1594}R^{545} + \\
& 819P^7Q^{1594}R^{544} + 1682P^{10}Q^{1594}R^{543} + 2309P^2Q^{1595}R^{545} + 1512P^5Q^{1595}R^{544} + \\
& 1498P^8Q^{1595}R^{543} + 2054Q^{1596}R^{545} + 1387P^3Q^{1596}R^{544} + 639P^6Q^{1596}R^{543} + 838P^9Q^{1596}R^{542} + \\
& 9PQ^{1597}R^{544} + 448P^4Q^{1597}R^{543} + 39P^7Q^{1597}R^{542} + 1782P^{10}Q^{1597}R^{541} + 2283P^2Q^{1598}R^{543} + \\
& 1469P^5Q^{1598}R^{542} + 1830P^8Q^{1598}R^{541} + 1457Q^{1599}R^{543} + 112P^3Q^{1599}R^{542} + 281P^6Q^{1599}R^{541} + \\
& 1942P^9Q^{1599}R^{540} + 770PQ^{1600}R^{542} + 1954P^4Q^{1600}R^{541} + 620P^7Q^{1600}R^{540} + 577P^{10}Q^{1600}R^{539} + \\
& 2249P^2Q^{1601}R^{541} + 690P^5Q^{1601}R^{540} + 2182P^8Q^{1601}R^{539} + 886Q^{1602}R^{541} + 2130P^3Q^{1602}R^{540} + \\
& 2112P^6Q^{1602}R^{539} + 2146P^9Q^{1602}R^{538} + 1685PQ^{1603}R^{540} + 831P^4Q^{1603}R^{539} + 684P^7Q^{1603}R^{538} + \\
& 1818P^{10}Q^{1603}R^{537} + 1553P^2Q^{1604}R^{539} + 2008P^5Q^{1604}R^{538} + 1927P^8Q^{1604}R^{537} + 2380Q^{1605}R^{539} + \\
& 2051P^3Q^{1605}R^{538} + 2090P^6Q^{1605}R^{537} + 1673P^9Q^{1605}R^{536} + 2014PQ^{1606}R^{538} + 244P^4Q^{1606}R^{537} + \\
& 622P^7Q^{1606}R^{536} + 1734P^{10}Q^{1606}R^{535} + 881P^2Q^{1607}R^{537} + 1866P^5Q^{1607}R^{536} + 601P^8Q^{1607}R^{535} + \\
& 675Q^{1608}R^{537} + 1666P^3Q^{1608}R^{536} + 2146P^6Q^{1608}R^{535} + 2153P^9Q^{1608}R^{534} + 1060PQ^{1609}R^{536} + \\
& 1528P^4Q^{1609}R^{535} + 442P^7Q^{1609}R^{534} + 934P^{10}Q^{1609}R^{533} + 1327P^2Q^{1610}R^{535} + 926P^5Q^{1610}R^{534} + \\
& 1057P^8Q^{1610}R^{533} + 2330Q^{1611}R^{535} + 594P^3Q^{1611}R^{534} + 130P^6Q^{1611}R^{533} + 306P^9Q^{1611}R^{532} +
\end{aligned}$$

$$\begin{aligned}
& 772PQ^{1612}R^{534} + 1390P^4Q^{1612}R^{533} + 1894P^7Q^{1612}R^{532} + 592P^{10}Q^{1612}R^{531} + 2203P^2Q^{1613}R^{533} + \\
& 202P^5Q^{1613}R^{532} + 410P^8Q^{1613}R^{531} + 861Q^{1614}R^{533} + 690P^3Q^{1614}R^{532} + 948P^6Q^{1614}R^{531} + \\
& 1636P^9Q^{1614}R^{530} + 1978PQ^{1615}R^{532} + 880P^4Q^{1615}R^{531} + 578P^7Q^{1615}R^{530} + 1655P^{10}Q^{1615}R^{529} + \\
& 632P^2Q^{1616}R^{531} + 1604P^5Q^{1616}R^{530} + 938P^8Q^{1616}R^{529} + 2149Q^{1617}R^{531} + 1525P^3Q^{1617}R^{530} + \\
& 1346P^6Q^{1617}R^{529} + 630P^9Q^{1617}R^{528} + 131PQ^{1618}R^{530} + 823P^4Q^{1618}R^{529} + 872P^7Q^{1618}R^{528} + \\
& 236P^{10}Q^{1618}R^{527} + 591P^2Q^{1619}R^{529} + 401P^5Q^{1619}R^{528} + 2233P^8Q^{1619}R^{527} + 214Q^{1620}R^{529} + \\
& 1389P^3Q^{1620}R^{528} + 476P^6Q^{1620}R^{527} + 717P^9Q^{1620}R^{526} + 130PQ^{1621}R^{528} + 577P^4Q^{1621}R^{527} + \\
& 2393P^7Q^{1621}R^{526} + 461P^{10}Q^{1621}R^{525} + 1386P^2Q^{1622}R^{527} + 1617P^5Q^{1622}R^{526} + \\
& 2017P^8Q^{1622}R^{525} + 1291Q^{1623}R^{527} + 405P^3Q^{1623}R^{526} + 390P^6Q^{1623}R^{525} + 1688P^9Q^{1623}R^{524} + \\
& 1762PQ^{1624}R^{526} + 2113P^4Q^{1624}R^{525} + 1405P^7Q^{1624}R^{524} + 1461P^{10}Q^{1624}R^{523} + \\
& 1479P^2Q^{1625}R^{525} + 1284P^5Q^{1625}R^{524} + 1861P^8Q^{1625}R^{523} + 69Q^{1626}R^{525} + 2387P^3Q^{1626}R^{524} + \\
& 66P^6Q^{1626}R^{523} + 849P^9Q^{1626}R^{522} + 141PQ^{1627}R^{524} + 1265P^4Q^{1627}R^{523} + 1444P^7Q^{1627}R^{522} + \\
& 1404P^{10}Q^{1627}R^{521} + 1494P^2Q^{1628}R^{523} + 543P^5Q^{1628}R^{522} + 704P^8Q^{1628}R^{521} + 1413Q^{1629}R^{523} + \\
& 1284P^3Q^{1629}R^{522} + 242P^6Q^{1629}R^{521} + 1443P^9Q^{1629}R^{520} + 1066PQ^{1630}R^{522} + 1325P^4Q^{1630}R^{521} + \\
& 2187P^7Q^{1630}R^{520} + 1646P^{10}Q^{1630}R^{519} + 133P^2Q^{1631}R^{521} + 390P^5Q^{1631}R^{520} + \\
& 1797P^8Q^{1631}R^{519} + 631Q^{1632}R^{521} + 88P^3Q^{1632}R^{520} + 302P^6Q^{1632}R^{519} + 912P^9Q^{1632}R^{518} + \\
& 1700PQ^{1633}R^{520} + 1601P^4Q^{1633}R^{519} + 2358P^7Q^{1633}R^{518} + 1842P^{10}Q^{1633}R^{517} + \\
& 357P^2Q^{1634}R^{519} + 1911P^5Q^{1634}R^{518} + 88P^8Q^{1634}R^{517} + 69Q^{1635}R^{519} + 1118P^3Q^{1635}R^{518} + \\
& 1628P^6Q^{1635}R^{517} + 1208P^9Q^{1635}R^{516} + 1179PQ^{1636}R^{518} + 1832P^4Q^{1636}R^{517} + \\
& 2132P^7Q^{1636}R^{516} + 2297P^{10}Q^{1636}R^{515} + 1644P^2Q^{1637}R^{517} + 1105P^5Q^{1637}R^{516} + \\
& 398P^8Q^{1637}R^{515} + 997Q^{1638}R^{517} + 810P^3Q^{1638}R^{516} + 1779P^6Q^{1638}R^{515} + 2023P^9Q^{1638}R^{514} + \\
& 1642PQ^{1639}R^{516} + 2005P^4Q^{1639}R^{515} + 328P^7Q^{1639}R^{514} + 773P^{10}Q^{1639}R^{513} + 1143P^2Q^{1640}R^{515} + \\
& 2244P^5Q^{1640}R^{514} + 660P^8Q^{1640}R^{513} + 1180Q^{1641}R^{515} + 2226P^3Q^{1641}R^{514} + 1558P^6Q^{1641}R^{513} + \\
& 304P^9Q^{1641}R^{512} + 1184PQ^{1642}R^{514} + 1069P^4Q^{1642}R^{513} + 1846P^7Q^{1642}R^{512} + 822P^{10}Q^{1642}R^{511} + \\
& 1252P^2Q^{1643}R^{513} + 356P^5Q^{1643}R^{512} + 1249P^8Q^{1643}R^{511} + 2047Q^{1644}R^{513} + 1299P^3Q^{1644}R^{512} + \\
& 2395P^6Q^{1644}R^{511} + 443P^9Q^{1644}R^{510} + 602PQ^{1645}R^{512} + 1941P^4Q^{1645}R^{511} + 2364P^7Q^{1645}R^{510} + \\
& 606P^{10}Q^{1645}R^{509} + 2358P^2Q^{1646}R^{511} + 2410P^5Q^{1646}R^{510} + 1787P^8Q^{1646}R^{509} + 1030Q^{1647}R^{511} + \\
& 1785P^3Q^{1647}R^{510} + 372P^6Q^{1647}R^{509} + 2270P^9Q^{1647}R^{508} + 1669PQ^{1648}R^{510} + 1584P^4Q^{1648}R^{509} + \\
& 2169P^7Q^{1648}R^{508} + 405P^{10}Q^{1648}R^{507} + 1168P^2Q^{1649}R^{509} + 1335P^5Q^{1649}R^{508} + \\
& 2049P^8Q^{1649}R^{507} + 2173Q^{1650}R^{509} + 2012P^3Q^{1650}R^{508} + 1374P^6Q^{1650}R^{507} + 1652P^9Q^{1650}R^{506} + \\
& 273PQ^{1651}R^{508} + 1274P^4Q^{1651}R^{507} + 903P^7Q^{1651}R^{506} + 327P^{10}Q^{1651}R^{505} + 540P^2Q^{1652}R^{507} + \\
& 1188P^5Q^{1652}R^{506} + 1035P^8Q^{1652}R^{505} + 1835Q^{1653}R^{507} + 846P^3Q^{1653}R^{506} + 34P^6Q^{1653}R^{505} + \\
& 2278P^9Q^{1653}R^{504} + 121PQ^{1654}R^{506} + 412P^4Q^{1654}R^{505} + 924P^7Q^{1654}R^{504} + 1059P^{10}Q^{1654}R^{503} + \\
& 924P^2Q^{1655}R^{505} + 417P^5Q^{1655}R^{504} + 842P^8Q^{1655}R^{503} + 1177Q^{1656}R^{505} + 839P^3Q^{1656}R^{504} + \\
& 1079P^6Q^{1656}R^{503} + 146P^9Q^{1656}R^{502} + 1073PQ^{1657}R^{504} + 1292P^4Q^{1657}R^{503} + 195P^7Q^{1657}R^{502} + \\
& 596P^{10}Q^{1657}R^{501} + 322P^2Q^{1658}R^{503} + 10P^5Q^{1658}R^{502} + 294P^8Q^{1658}R^{501} + 156Q^{1659}R^{503} + \\
& 2037P^3Q^{1659}R^{502} + 651P^6Q^{1659}R^{501} + 1626P^9Q^{1659}R^{500} + 1006PQ^{1660}R^{502} + 1636P^4Q^{1660}R^{501} + \\
& 1730P^7Q^{1660}R^{500} + 1506P^{10}Q^{1660}R^{499} + 2394P^2Q^{1661}R^{501} + 1527P^5Q^{1661}R^{500} + \\
& 1320P^8Q^{1661}R^{499} + 687Q^{1662}R^{501} + 1828P^3Q^{1662}R^{500} + 134P^6Q^{1662}R^{499} + 2054P^9Q^{1662}R^{498} + \\
& 1784PQ^{1663}R^{500} + 2289P^4Q^{1663}R^{499} + 2157P^7Q^{1663}R^{498} + 686P^{10}Q^{1663}R^{497} + 265P^2Q^{1664}R^{499} + \\
& 943P^5Q^{1664}R^{498} + 2278P^8Q^{1664}R^{497} + 119Q^{1665}R^{499} + 1824P^3Q^{1665}R^{498} + 2313P^6Q^{1665}R^{497} + \\
& 1437P^9Q^{1665}R^{496} + 32PQ^{1666}R^{498} + 1971P^4Q^{1666}R^{497} + 1237P^7Q^{1666}R^{496} + 1313P^{10}Q^{1666}R^{495} + \\
& 1119P^2Q^{1667}R^{497} + 1978P^5Q^{1667}R^{496} + 1017P^8Q^{1667}R^{495} + 1095Q^{1668}R^{497} + 1165P^3Q^{1668}R^{496} + \\
& 749P^6Q^{1668}R^{495} + 586P^9Q^{1668}R^{494} + 1381PQ^{1669}R^{496} + 1712P^4Q^{1669}R^{495} + 355P^7Q^{1669}R^{494} + \\
& 2217P^{10}Q^{1669}R^{493} + 1972P^2Q^{1670}R^{495} + 1823P^5Q^{1670}R^{494} + 2409P^8Q^{1670}R^{493} + \\
& 2292Q^{1671}R^{495} + 1859P^3Q^{1671}R^{494} + 733P^6Q^{1671}R^{493} + 2339P^9Q^{1671}R^{492} + 1534PQ^{1672}R^{494} + \\
& 112P^4Q^{1672}R^{493} + 169P^7Q^{1672}R^{492} + 1137P^{10}Q^{1672}R^{491} + 935P^2Q^{1673}R^{493} + 2160P^5Q^{1673}R^{492} + \\
& 544P^8Q^{1673}R^{491} + 90Q^{1674}R^{493} + 496P^3Q^{1674}R^{492} + 1492P^6Q^{1674}R^{491} + 2187P^9Q^{1674}R^{490} + \\
& 2195PQ^{1675}R^{492} + 1635P^4Q^{1675}R^{491} + 1132P^7Q^{1675}R^{490} + 1395P^{10}Q^{1675}R^{489} +
\end{aligned}$$



$$\begin{aligned}
& 317P^2Q^{1676}R^{491} + 1150P^5Q^{1676}R^{490} + 189P^8Q^{1676}R^{489} + 672Q^{1677}R^{491} + 2172P^3Q^{1677}R^{490} + \\
& 1621P^6Q^{1677}R^{489} + 1334P^9Q^{1677}R^{488} + 1032PQ^{1678}R^{490} + 2031P^4Q^{1678}R^{489} + \\
& 765P^7Q^{1678}R^{488} + 662P^{10}Q^{1678}R^{487} + 817P^2Q^{1679}R^{489} + 1559P^5Q^{1679}R^{488} + 1623P^8Q^{1679}R^{487} + \\
& 1436Q^{1680}R^{489} + 753P^3Q^{1680}R^{488} + 252P^6Q^{1680}R^{487} + 834P^9Q^{1680}R^{486} + 2047PQ^{1681}R^{488} + \\
& 1135P^4Q^{1681}R^{487} + 1980P^7Q^{1681}R^{486} + 1364P^{10}Q^{1681}R^{485} + 2022P^2Q^{1682}R^{487} + \\
& 1132P^5Q^{1682}R^{486} + 1865P^8Q^{1682}R^{485} + 2225Q^{1683}R^{487} + 1134P^3Q^{1683}R^{486} + 1130P^6Q^{1683}R^{485} + \\
& 923P^9Q^{1683}R^{484} + 2345PQ^{1684}R^{486} + 556P^4Q^{1684}R^{485} + 951P^7Q^{1684}R^{484} + 2105P^{10}Q^{1684}R^{483} + \\
& 940P^2Q^{1685}R^{485} + 1905P^5Q^{1685}R^{484} + 1263P^8Q^{1685}R^{483} + 2039Q^{1686}R^{485} + 1747P^3Q^{1686}R^{484} + \\
& 2370P^6Q^{1686}R^{483} + 219P^9Q^{1686}R^{482} + 1807PQ^{1687}R^{484} + 1337P^4Q^{1687}R^{483} + 1480P^7Q^{1687}R^{482} + \\
& 1636P^{10}Q^{1687}R^{481} + 847P^2Q^{1688}R^{483} + 1800P^5Q^{1688}R^{482} + 622P^8Q^{1688}R^{481} + \\
& 1318Q^{1689}R^{483} + 170P^3Q^{1689}R^{482} + 1260P^6Q^{1689}R^{481} + 111P^9Q^{1689}R^{480} + 2272PQ^{1690}R^{482} + \\
& 1179P^4Q^{1690}R^{481} + 200P^7Q^{1690}R^{480} + 1240P^{10}Q^{1690}R^{479} + 1860P^2Q^{1691}R^{481} + \\
& 346P^5Q^{1691}R^{480} + 857P^8Q^{1691}R^{479} + 229Q^{1692}R^{481} + 771P^3Q^{1692}R^{480} + 42P^6Q^{1692}R^{479} + \\
& 1146P^9Q^{1692}R^{478} + 789PQ^{1693}R^{480} + 1233P^4Q^{1693}R^{479} + 82P^7Q^{1693}R^{478} + 1541P^{10}Q^{1693}R^{477} + \\
& 377P^2Q^{1694}R^{479} + 350P^5Q^{1694}R^{478} + 2320P^8Q^{1694}R^{477} + 1301Q^{1695}R^{479} + 382P^3Q^{1695}R^{478} + \\
& 200P^6Q^{1695}R^{477} + 1611P^9Q^{1695}R^{476} + 770PQ^{1696}R^{478} + 1409P^4Q^{1696}R^{477} + 1154P^7Q^{1696}R^{476} + \\
& 175P^{10}Q^{1696}R^{475} + 1750P^2Q^{1697}R^{477} + 121P^5Q^{1697}R^{476} + 1688P^8Q^{1697}R^{475} + 2390Q^{1698}R^{477} + \\
& 858P^3Q^{1698}R^{476} + 52P^6Q^{1698}R^{475} + 113P^9Q^{1698}R^{474} + 1222PQ^{1699}R^{476} + 548P^4Q^{1699}R^{475} + \\
& 1189P^7Q^{1699}R^{474} + 1930P^{10}Q^{1699}R^{473} + 1575P^2Q^{1700}R^{475} + 446P^5Q^{1700}R^{474} + \\
& 1828P^8Q^{1700}R^{473} + 998Q^{1701}R^{475} + 995P^3Q^{1701}R^{474} + 680P^6Q^{1701}R^{473} + 173P^9Q^{1701}R^{472} + \\
& 1774PQ^{1702}R^{474} + 33P^4Q^{1702}R^{473} + 1489P^7Q^{1702}R^{472} + 424P^{10}Q^{1702}R^{471} + 2293P^2Q^{1703}R^{473} + \\
& 1997P^5Q^{1703}R^{472} + 89P^8Q^{1703}R^{471} + 708Q^{1704}R^{473} + 261P^3Q^{1704}R^{472} + 2270P^6Q^{1704}R^{471} + \\
& 248P^9Q^{1704}R^{470} + 2245PQ^{1705}R^{472} + 661P^4Q^{1705}R^{471} + 295P^7Q^{1705}R^{470} + 2241P^{10}Q^{1705}R^{469} + \\
& 2034P^2Q^{1706}R^{471} + 352P^5Q^{1706}R^{470} + 1585P^8Q^{1706}R^{469} + 1133Q^{1707}R^{471} + 1083P^3Q^{1707}R^{470} + \\
& 779P^6Q^{1707}R^{469} + 673P^9Q^{1707}R^{468} + 1924PQ^{1708}R^{470} + 399P^4Q^{1708}R^{469} + 2381P^7Q^{1708}R^{468} + \\
& 2010P^{10}Q^{1708}R^{467} + 1277P^2Q^{1709}R^{469} + 4P^5Q^{1709}R^{468} + 1588P^8Q^{1709}R^{467} + 2324Q^{1710}R^{469} + \\
& 1007P^3Q^{1710}R^{468} + 651P^6Q^{1710}R^{467} + 2410P^9Q^{1710}R^{466} + 1195PQ^{1711}R^{468} + 668P^4Q^{1711}R^{467} + \\
& 1644P^7Q^{1711}R^{466} + 1227P^{10}Q^{1711}R^{465} + 2400P^2Q^{1712}R^{467} + 1344P^5Q^{1712}R^{466} + \\
& 2151P^8Q^{1712}R^{465} + 449Q^{1713}R^{467} + 1297P^3Q^{1713}R^{466} + 263P^6Q^{1713}R^{465} + 1912P^9Q^{1713}R^{464} + \\
& 479PQ^{1714}R^{466} + 1422P^4Q^{1714}R^{465} + 302P^7Q^{1714}R^{464} + 1011P^{10}Q^{1714}R^{463} + 763P^2Q^{1715}R^{465} + \\
& 1207P^5Q^{1715}R^{464} + 2016P^8Q^{1715}R^{463} + 464Q^{1716}R^{465} + 1620P^3Q^{1716}R^{464} + 645P^6Q^{1716}R^{463} + \\
& 368P^9Q^{1716}R^{462} + 358PQ^{1717}R^{464} + 1211P^4Q^{1717}R^{463} + 1145P^7Q^{1717}R^{462} + 857P^{10}Q^{1717}R^{461} + \\
& 111P^2Q^{1718}R^{463} + 1211P^5Q^{1718}R^{462} + 473P^8Q^{1718}R^{461} + 2236Q^{1719}R^{463} + 380P^3Q^{1719}R^{462} + \\
& 1040P^6Q^{1719}R^{461} + 434P^9Q^{1719}R^{460} + 459PQ^{1720}R^{462} + 2259P^4Q^{1720}R^{461} + 241P^7Q^{1720}R^{460} + \\
& 1810P^{10}Q^{1720}R^{459} + 1476P^2Q^{1721}R^{461} + 831P^5Q^{1721}R^{460} + 1112P^8Q^{1721}R^{459} + \\
& 521Q^{1722}R^{461} + 1347P^3Q^{1722}R^{460} + 455P^6Q^{1722}R^{459} + 2323P^9Q^{1722}R^{458} + 1052PQ^{1723}R^{460} + \\
& 1806P^4Q^{1723}R^{459} + 2035P^7Q^{1723}R^{458} + 1934P^{10}Q^{1723}R^{457} + 902P^2Q^{1724}R^{459} + \\
& 858P^5Q^{1724}R^{458} + 725P^8Q^{1724}R^{457} + 1174Q^{1725}R^{459} + 666P^3Q^{1725}R^{458} + 542P^6Q^{1725}R^{457} + \\
& 1572P^9Q^{1725}R^{456} + 243PQ^{1726}R^{458} + 995P^4Q^{1726}R^{457} + 923P^7Q^{1726}R^{456} + 1428P^{10}Q^{1726}R^{455} + \\
& 1122P^2Q^{1727}R^{457} + 1638P^5Q^{1727}R^{456} + 855P^8Q^{1727}R^{455} + 1105Q^{1728}R^{457} + 248P^3Q^{1728}R^{456} + \\
& 899P^6Q^{1728}R^{455} + 2149P^9Q^{1728}R^{454} + 2170PQ^{1729}R^{456} + 2261P^4Q^{1729}R^{455} + 2394P^7Q^{1729}R^{454} + \\
& 586P^{10}Q^{1729}R^{453} + 310P^2Q^{1730}R^{455} + 2237P^5Q^{1730}R^{454} + 9P^8Q^{1730}R^{453} + 902Q^{1731}R^{455} + \\
& 1234P^3Q^{1731}R^{454} + 556P^6Q^{1731}R^{453} + 11P^9Q^{1731}R^{452} + 269PQ^{1732}R^{454} + 389P^4Q^{1732}R^{453} + \\
& 1264P^7Q^{1732}R^{452} + 740P^{10}Q^{1732}R^{451} + 1302P^2Q^{1733}R^{453} + 311P^5Q^{1733}R^{452} + 69P^8Q^{1733}R^{451} + \\
& 369Q^{1734}R^{453} + 1295P^3Q^{1734}R^{452} + 1338P^6Q^{1734}R^{451} + 1992P^9Q^{1734}R^{450} + 440PQ^{1735}R^{452} + \\
& 1715P^4Q^{1735}R^{451} + 2393P^7Q^{1735}R^{450} + 1125P^{10}Q^{1735}R^{449} + 1533P^2Q^{1736}R^{451} + \\
& 1142P^5Q^{1736}R^{450} + 1651P^8Q^{1736}R^{449} + 1558Q^{1737}R^{451} + 875P^3Q^{1737}R^{450} + 2092P^6Q^{1737}R^{449} + \\
& 1701P^9Q^{1737}R^{448} + 75PQ^{1738}R^{450} + 838P^4Q^{1738}R^{449} + 994P^7Q^{1738}R^{448} + 1882P^{10}Q^{1738}R^{447} + \\
& 1953P^2Q^{1739}R^{449} + 2237P^5Q^{1739}R^{448} + 1592P^8Q^{1739}R^{447} + 50Q^{1740}R^{449} + 60P^3Q^{1740}R^{448} +
\end{aligned}$$

$$\begin{aligned}
& 2056P^6Q^{1740}R^{447} + 326P^9Q^{1740}R^{446} + 1115PQ^{1741}R^{448} + 1074P^4Q^{1741}R^{447} + 1121P^7Q^{1741}R^{446} + \\
& 2083P^{10}Q^{1741}R^{445} + 2376P^2Q^{1742}R^{447} + 2033P^5Q^{1742}R^{446} + 2236P^8Q^{1742}R^{445} + 234Q^{1743}R^{447} + \\
& 423P^3Q^{1743}R^{446} + 1119P^6Q^{1743}R^{445} + 1262P^9Q^{1743}R^{444} + 2093PQ^{1744}R^{446} + 2033P^4Q^{1744}R^{445} + \\
& 345P^7Q^{1744}R^{444} + 537P^{10}Q^{1744}R^{443} + 1799P^2Q^{1745}R^{445} + 259P^5Q^{1745}R^{444} + 2063P^8Q^{1745}R^{443} + \\
& 1822Q^{1746}R^{445} + 2410P^3Q^{1746}R^{444} + 2311P^6Q^{1746}R^{443} + 1326P^9Q^{1746}R^{442} + 1535PQ^{1747}R^{444} + \\
& 639P^4Q^{1747}R^{443} + 1616P^7Q^{1747}R^{442} + 2327P^{10}Q^{1747}R^{441} + 1806P^2Q^{1748}R^{443} + \\
& 1464P^5Q^{1748}R^{442} + 303P^8Q^{1748}R^{441} + 1021Q^{1749}R^{443} + 610P^3Q^{1749}R^{442} + 1052P^6Q^{1749}R^{441} + \\
& 91P^9Q^{1749}R^{440} + 2042PQ^{1750}R^{442} + 1063P^4Q^{1750}R^{441} + 1788P^7Q^{1750}R^{440} + 960P^{10}Q^{1750}R^{439} + \\
& 2360P^2Q^{1751}R^{441} + 2309P^5Q^{1751}R^{440} + 628P^8Q^{1751}R^{439} + 712Q^{1752}R^{441} + 2335P^3Q^{1752}R^{440} + \\
& 503P^6Q^{1752}R^{439} + 1437P^9Q^{1752}R^{438} + 1485PQ^{1753}R^{440} + 1545P^4Q^{1753}R^{439} + 2150P^7Q^{1753}R^{438} + \\
& 864P^{10}Q^{1753}R^{437} + 271P^2Q^{1754}R^{439} + 2119P^5Q^{1754}R^{438} + 1053P^8Q^{1754}R^{437} + 668Q^{1755}R^{439} + \\
& 39P^3Q^{1755}R^{438} + 706P^6Q^{1755}R^{437} + 1223P^9Q^{1755}R^{436} + 75PQ^{1756}R^{438} + 129P^4Q^{1756}R^{437} + \\
& 944P^7Q^{1756}R^{436} + 1697P^{10}Q^{1756}R^{435} + 1821P^2Q^{1757}R^{437} + 731P^5Q^{1757}R^{436} + 912P^8Q^{1757}R^{435} + \\
& 1917Q^{1758}R^{437} + 440P^3Q^{1758}R^{436} + 312P^6Q^{1758}R^{435} + 579P^9Q^{1758}R^{434} + 1656PQ^{1759}R^{436} + \\
& 1573P^4Q^{1759}R^{435} + 1319P^7Q^{1759}R^{434} + 414P^{10}Q^{1759}R^{433} + 234P^2Q^{1760}R^{435} + \\
& 1137P^5Q^{1760}R^{434} + 1509P^8Q^{1760}R^{433} + 886Q^{1761}R^{435} + 1687P^3Q^{1761}R^{434} + 1253P^6Q^{1761}R^{433} + \\
& 712P^9Q^{1761}R^{432} + 317PQ^{1762}R^{434} + 1685P^4Q^{1762}R^{433} + 932P^7Q^{1762}R^{432} + 1770P^{10}Q^{1762}R^{431} + \\
& 1788P^2Q^{1763}R^{433} + 572P^5Q^{1763}R^{432} + 2245P^8Q^{1763}R^{431} + 671Q^{1764}R^{433} + 2328P^3Q^{1764}R^{432} + \\
& 1794P^6Q^{1764}R^{431} + 217P^9Q^{1764}R^{430} + 1548PQ^{1765}R^{432} + 1019P^4Q^{1765}R^{431} + 1790P^7Q^{1765}R^{430} + \\
& 2054P^{10}Q^{1765}R^{429} + 1652P^2Q^{1766}R^{431} + 526P^5Q^{1766}R^{430} + 564P^8Q^{1766}R^{429} + 2158Q^{1767}R^{431} + \\
& 628P^3Q^{1767}R^{430} + 1086P^6Q^{1767}R^{429} + 1655P^9Q^{1767}R^{428} + 893PQ^{1768}R^{430} + 2085P^4Q^{1768}R^{429} + \\
& 667P^7Q^{1768}R^{428} + 1006P^{10}Q^{1768}R^{427} + 1664P^2Q^{1769}R^{429} + 1388P^5Q^{1769}R^{428} + \\
& 1973P^8Q^{1769}R^{427} + 1245Q^{1770}R^{429} + 803P^3Q^{1770}R^{428} + 2324P^6Q^{1770}R^{427} + 1297P^9Q^{1770}R^{426} + \\
& 1162PQ^{1771}R^{428} + 704P^4Q^{1771}R^{427} + 536P^7Q^{1771}R^{426} + 493P^{10}Q^{1771}R^{425} + 2264P^2Q^{1772}R^{427} + \\
& 1387P^5Q^{1772}R^{426} + 162P^8Q^{1772}R^{425} + 1362Q^{1773}R^{427} + 1709P^3Q^{1773}R^{426} + 1218P^6Q^{1773}R^{425} + \\
& 426P^9Q^{1773}R^{424} + 2110PQ^{1774}R^{426} + 1232P^4Q^{1774}R^{425} + 506P^7Q^{1774}R^{424} + 1553P^{10}Q^{1774}R^{423} + \\
& 2158P^2Q^{1775}R^{425} + 1439P^5Q^{1775}R^{424} + 368P^8Q^{1775}R^{423} + 564Q^{1776}R^{425} + 2087P^3Q^{1776}R^{424} + \\
& 1471P^6Q^{1776}R^{423} + 909P^9Q^{1776}R^{422} + 1164PQ^{1777}R^{424} + 462P^4Q^{1777}R^{423} + 457P^7Q^{1777}R^{422} + \\
& 1532P^{10}Q^{1777}R^{421} + 352P^2Q^{1778}R^{423} + 1831P^5Q^{1778}R^{422} + 1120P^8Q^{1778}R^{421} + \\
& 680Q^{1779}R^{423} + 1375P^3Q^{1779}R^{422} + 1484P^6Q^{1779}R^{421} + 2041P^9Q^{1779}R^{420} + 804PQ^{1780}R^{422} + \\
& 2350P^4Q^{1780}R^{421} + 2095P^7Q^{1780}R^{420} + 1157P^{10}Q^{1780}R^{419} + 1200P^2Q^{1781}R^{421} + \\
& 1631P^5Q^{1781}R^{420} + 2310P^8Q^{1781}R^{419} + 2116Q^{1782}R^{421} + 1353P^3Q^{1782}R^{420} + 80P^6Q^{1782}R^{419} + \\
& 945P^9Q^{1782}R^{418} + 2162PQ^{1783}R^{420} + 13P^4Q^{1783}R^{419} + 2393P^7Q^{1783}R^{418} + 717P^{10}Q^{1783}R^{417} + \\
& 46P^2Q^{1784}R^{419} + 445P^5Q^{1784}R^{418} + 2218P^8Q^{1784}R^{417} + 851Q^{1785}R^{419} + 1712P^3Q^{1785}R^{418} + \\
& 2241P^6Q^{1785}R^{417} + 341P^9Q^{1785}R^{416} + 2174PQ^{1786}R^{418} + 691P^4Q^{1786}R^{417} + 973P^7Q^{1786}R^{416} + \\
& 946P^{10}Q^{1786}R^{415} + 510P^2Q^{1787}R^{417} + 1610P^5Q^{1787}R^{416} + 873P^8Q^{1787}R^{415} + 2121Q^{1788}R^{417} + \\
& 248P^3Q^{1788}R^{416} + 1788P^6Q^{1788}R^{415} + 2239P^9Q^{1788}R^{414} + 1224PQ^{1789}R^{416} + 1337P^4Q^{1789}R^{415} + \\
& 2387P^7Q^{1789}R^{414} + 691P^{10}Q^{1789}R^{413} + 1651P^2Q^{1790}R^{415} + 2242P^5Q^{1790}R^{414} + \\
& 1486P^8Q^{1790}R^{413} + 404Q^{1791}R^{415} + 2358P^3Q^{1791}R^{414} + 2022P^6Q^{1791}R^{413} + 539P^9Q^{1791}R^{412} + \\
& 1886PQ^{1792}R^{414} + 542P^4Q^{1792}R^{413} + 1033P^7Q^{1792}R^{412} + 1520P^{10}Q^{1792}R^{411} + 553P^2Q^{1793}R^{413} + \\
& 220P^5Q^{1793}R^{412} + 238P^8Q^{1793}R^{411} + 1016Q^{1794}R^{413} + 950P^3Q^{1794}R^{412} + 31P^6Q^{1794}R^{411} + \\
& 1808P^9Q^{1794}R^{410} + 1790PQ^{1795}R^{412} + 353P^4Q^{1795}R^{411} + 1268P^7Q^{1795}R^{410} + 315P^{10}Q^{1795}R^{409} + \\
& 1322P^2Q^{1796}R^{411} + 2055P^5Q^{1796}R^{410} + 620P^8Q^{1796}R^{409} + 2249Q^{1797}R^{411} + 2370P^3Q^{1797}R^{410} + \\
& 489P^6Q^{1797}R^{409} + 1904P^9Q^{1797}R^{408} + 709PQ^{1798}R^{410} + 1378P^4Q^{1798}R^{409} + 589P^7Q^{1798}R^{408} + \\
& 1166P^{10}Q^{1798}R^{407} + 2050P^2Q^{1799}R^{409} + 36P^5Q^{1799}R^{408} + 2374P^8Q^{1799}R^{407} + 1578Q^{1800}R^{409} + \\
& 1801P^3Q^{1800}R^{408} + 2364P^6Q^{1800}R^{407} + 2052P^9Q^{1800}R^{406} + 1876PQ^{1801}R^{408} + \\
& 1781P^4Q^{1801}R^{407} + 1496P^7Q^{1801}R^{406} + 178P^{10}Q^{1801}R^{405} + 270P^2Q^{1802}R^{407} + \\
& 2122P^5Q^{1802}R^{406} + 224P^8Q^{1802}R^{405} + 2402Q^{1803}R^{407} + 1343P^3Q^{1803}R^{406} + 1761P^6Q^{1803}R^{405} + \\
& 1473P^9Q^{1803}R^{404} + 1000PQ^{1804}R^{406} + 766P^4Q^{1804}R^{405} + 331P^7Q^{1804}R^{404} + 1956P^{10}Q^{1804}R^{403} +
\end{aligned}$$

$$\begin{aligned}
& 76P^2Q^{1805}R^{405} + 2129P^5Q^{1805}R^{404} + 158P^8Q^{1805}R^{403} + 348Q^{1806}R^{405} + 253P^3Q^{1806}R^{404} + \\
& 1185P^6Q^{1806}R^{403} + 1587P^9Q^{1806}R^{402} + 959PQ^{1807}R^{404} + 828P^4Q^{1807}R^{403} + 1612P^7Q^{1807}R^{402} + \\
& 10P^{10}Q^{1807}R^{401} + 805P^2Q^{1808}R^{403} + 887P^5Q^{1808}R^{402} + 909P^8Q^{1808}R^{401} + 691Q^{1809}R^{403} + \\
& 750P^3Q^{1809}R^{402} + 2185P^6Q^{1809}R^{401} + 1651P^9Q^{1809}R^{400} + 2076PQ^{1810}R^{402} + 1355P^4Q^{1810}R^{401} + \\
& 2046P^7Q^{1810}R^{400} + 243P^{10}Q^{1810}R^{399} + 105P^2Q^{1811}R^{401} + 2316P^5Q^{1811}R^{400} + \\
& 1593P^8Q^{1811}R^{399} + 825Q^{1812}R^{401} + 1252P^3Q^{1812}R^{400} + 867P^6Q^{1812}R^{399} + 136P^9Q^{1812}R^{398} + \\
& 187PQ^{1813}R^{400} + 1858P^4Q^{1813}R^{399} + 1077P^7Q^{1813}R^{398} + 2128P^{10}Q^{1813}R^{397} + 352P^2Q^{1814}R^{399} + \\
& 1471P^5Q^{1814}R^{398} + 1684P^8Q^{1814}R^{397} + 1396Q^{1815}R^{399} + 607P^3Q^{1815}R^{398} + 2325P^6Q^{1815}R^{397} + \\
& 524P^9Q^{1815}R^{396} + 2205PQ^{1816}R^{398} + 1852P^4Q^{1816}R^{397} + 1520P^7Q^{1816}R^{396} + 841P^{10}Q^{1816}R^{395} + \\
& 1857P^2Q^{1817}R^{397} + 1230P^5Q^{1817}R^{396} + 702P^8Q^{1817}R^{395} + 1232Q^{1818}R^{397} + 1909P^3Q^{1818}R^{396} + \\
& 1861P^6Q^{1818}R^{395} + 847P^9Q^{1818}R^{394} + 931PQ^{1819}R^{396} + 800P^4Q^{1819}R^{395} + 1504P^7Q^{1819}R^{394} + \\
& 1158P^{10}Q^{1819}R^{393} + 2023P^2Q^{1820}R^{395} + 1037P^5Q^{1820}R^{394} + 341P^8Q^{1820}R^{393} + \\
& 115Q^{1821}R^{395} + 241P^3Q^{1821}R^{394} + 2195P^6Q^{1821}R^{393} + 1276P^9Q^{1821}R^{392} + 1022PQ^{1822}R^{394} + \\
& 1541P^4Q^{1822}R^{393} + 2272P^7Q^{1822}R^{392} + 2235P^{10}Q^{1822}R^{391} + 1386P^2Q^{1823}R^{393} + \\
& 1536P^5Q^{1823}R^{392} + 1494P^8Q^{1823}R^{391} + 2240Q^{1824}R^{393} + 832P^3Q^{1824}R^{392} + 1142P^6Q^{1824}R^{391} + \\
& 1079P^9Q^{1824}R^{390} + 722PQ^{1825}R^{392} + 1911P^4Q^{1825}R^{391} + 703P^7Q^{1825}R^{390} + 709P^{10}Q^{1825}R^{389} + \\
& 276P^2Q^{1826}R^{391} + 1647P^5Q^{1826}R^{390} + 1804P^8Q^{1826}R^{389} + 191Q^{1827}R^{391} + 357P^3Q^{1827}R^{390} + \\
& 1709P^6Q^{1827}R^{389} + 750P^9Q^{1827}R^{388} + 709PQ^{1828}R^{390} + 1927P^4Q^{1828}R^{389} + 1085P^7Q^{1828}R^{388} + \\
& 1433P^{10}Q^{1828}R^{387} + 1413P^2Q^{1829}R^{389} + 437P^5Q^{1829}R^{388} + 1341P^8Q^{1829}R^{387} + 2213Q^{1830}R^{389} + \\
& 2134P^3Q^{1830}R^{388} + 619P^6Q^{1830}R^{387} + 1607P^9Q^{1830}R^{386} + 2249PQ^{1831}R^{388} + 234P^4Q^{1831}R^{387} + \\
& 581P^7Q^{1831}R^{386} + 2214P^{10}Q^{1831}R^{385} + 22P^2Q^{1832}R^{387} + 459P^5Q^{1832}R^{386} + 894P^8Q^{1832}R^{385} + \\
& 286Q^{1833}R^{387} + 856P^3Q^{1833}R^{386} + 1050P^6Q^{1833}R^{385} + 338P^9Q^{1833}R^{384} + 1114PQ^{1834}R^{386} + \\
& 1783P^4Q^{1834}R^{385} + 1069P^7Q^{1834}R^{384} + 91P^{10}Q^{1834}R^{383} + 88P^2Q^{1835}R^{385} + 1395P^5Q^{1835}R^{384} + \\
& 1251P^8Q^{1835}R^{383} + 241Q^{1836}R^{385} + 1196P^3Q^{1836}R^{384} + 82P^6Q^{1836}R^{383} + 275P^9Q^{1836}R^{382} + \\
& 751PQ^{1837}R^{384} + 425P^4Q^{1837}R^{383} + 1791P^7Q^{1837}R^{382} + 1182P^{10}Q^{1837}R^{381} + 1864P^2Q^{1838}R^{383} + \\
& 2001P^5Q^{1838}R^{382} + 2124P^8Q^{1838}R^{381} + 329Q^{1839}R^{383} + 697P^3Q^{1839}R^{382} + 682P^6Q^{1839}R^{381} + \\
& 1459P^9Q^{1839}R^{380} + 971PQ^{1840}R^{382} + 1287P^4Q^{1840}R^{381} + 199P^7Q^{1840}R^{380} + 1023P^{10}Q^{1840}R^{379} + \\
& 2358P^2Q^{1841}R^{381} + 189P^5Q^{1841}R^{380} + 974P^8Q^{1841}R^{379} + 1054Q^{1842}R^{381} + 1984P^3Q^{1842}R^{380} + \\
& 1664P^6Q^{1842}R^{379} + 1408P^9Q^{1842}R^{378} + 1567PQ^{1843}R^{380} + 1025P^4Q^{1843}R^{379} + \\
& 1567P^7Q^{1843}R^{378} + 2354P^{10}Q^{1843}R^{377} + 1056P^2Q^{1844}R^{379} + 1512P^5Q^{1844}R^{378} + \\
& 1889P^8Q^{1844}R^{377} + 902Q^{1845}R^{379} + 1404P^3Q^{1845}R^{378} + 1380P^6Q^{1845}R^{377} + 612P^9Q^{1845}R^{376} + \\
& 1501PQ^{1846}R^{378} + 1903P^4Q^{1846}R^{377} + 2123P^7Q^{1846}R^{376} + 1784P^{10}Q^{1846}R^{375} + \\
& 1320P^2Q^{1847}R^{377} + 653P^5Q^{1847}R^{376} + 1557P^8Q^{1847}R^{375} + 1996Q^{1848}R^{377} + 1721P^3Q^{1848}R^{376} + \\
& 1751P^6Q^{1848}R^{375} + 1247P^9Q^{1848}R^{374} + 1571PQ^{1849}R^{376} + 122P^4Q^{1849}R^{375} + 876P^7Q^{1849}R^{374} + \\
& 2391P^{10}Q^{1849}R^{373} + 192P^2Q^{1850}R^{375} + 100P^5Q^{1850}R^{374} + 208P^8Q^{1850}R^{373} + 2153Q^{1851}R^{375} + \\
& 1552P^3Q^{1851}R^{374} + 812P^6Q^{1851}R^{373} + 2011P^9Q^{1851}R^{372} + 603PQ^{1852}R^{374} + 571P^4Q^{1852}R^{373} + \\
& 969P^7Q^{1852}R^{372} + 1149P^{10}Q^{1852}R^{371} + 177P^2Q^{1853}R^{373} + 1715P^5Q^{1853}R^{372} + \\
& 1719P^8Q^{1853}R^{371} + 1825Q^{1854}R^{373} + 239P^3Q^{1854}R^{372} + 369P^6Q^{1854}R^{371} + 1317P^9Q^{1854}R^{370} + \\
& 1021PQ^{1855}R^{372} + 1497P^4Q^{1855}R^{371} + 488P^7Q^{1855}R^{370} + 873P^{10}Q^{1855}R^{369} + 2136P^2Q^{1856}R^{371} + \\
& 2034P^5Q^{1856}R^{370} + 1497P^8Q^{1856}R^{369} + 328Q^{1857}R^{371} + 1624P^3Q^{1857}R^{370} + 768P^6Q^{1857}R^{369} + \\
& 630P^9Q^{1857}R^{368} + 2234PQ^{1858}R^{370} + 695P^4Q^{1858}R^{369} + 1405P^7Q^{1858}R^{368} + 407P^{10}Q^{1858}R^{367} + \\
& 1891P^2Q^{1859}R^{369} + 427P^5Q^{1859}R^{368} + 1695P^8Q^{1859}R^{367} + 492Q^{1860}R^{369} + 1232P^3Q^{1860}R^{368} + \\
& 915P^6Q^{1860}R^{367} + 137P^9Q^{1860}R^{366} + 805PQ^{1861}R^{368} + 1868P^4Q^{1861}R^{367} + 1042P^7Q^{1861}R^{366} + \\
& 838P^{10}Q^{1861}R^{365} + 953P^2Q^{1862}R^{367} + 2067P^5Q^{1862}R^{366} + 1735P^8Q^{1862}R^{365} + \\
& 560Q^{1863}R^{367} + 317P^3Q^{1863}R^{366} + 1966P^6Q^{1863}R^{365} + 1224P^9Q^{1863}R^{364} + 2263PQ^{1864}R^{366} + \\
& 1963P^4Q^{1864}R^{365} + 383P^7Q^{1864}R^{364} + 490P^{10}Q^{1864}R^{363} + 177P^2Q^{1865}R^{365} + 2032P^5Q^{1865}R^{364} + \\
& 403P^8Q^{1865}R^{363} + 309Q^{1866}R^{365} + 48P^3Q^{1866}R^{364} + 212P^6Q^{1866}R^{363} + 1947P^9Q^{1866}R^{362} + \\
& 1764PQ^{1867}R^{364} + 2071P^4Q^{1867}R^{363} + 1591P^7Q^{1867}R^{362} + 371P^{10}Q^{1867}R^{361} + 58P^2Q^{1868}R^{363} + \\
& 1099P^5Q^{1868}R^{362} + 2115P^8Q^{1868}R^{361} + 244Q^{1869}R^{363} + 350P^3Q^{1869}R^{362} + 1837P^6Q^{1869}R^{361} +
\end{aligned}$$

$$\begin{aligned}
& 1421P^9Q^{1869}R^{360} + 469PQ^{1870}R^{362} + 155P^4Q^{1870}R^{361} + 1530P^7Q^{1870}R^{360} + 813P^{10}Q^{1870}R^{359} + \\
& 1661P^2Q^{1871}R^{361} + 574P^5Q^{1871}R^{360} + 5P^8Q^{1871}R^{359} + 2131Q^{1872}R^{361} + 633P^3Q^{1872}R^{360} + \\
& 836P^6Q^{1872}R^{359} + 81P^9Q^{1872}R^{358} + 465PQ^{1873}R^{360} + 2303P^4Q^{1873}R^{359} + 1812P^7Q^{1873}R^{358} + \\
& 2343P^{10}Q^{1873}R^{357} + 1391P^2Q^{1874}R^{359} + 1388P^5Q^{1874}R^{358} + 747P^8Q^{1874}R^{357} + \\
& 2053Q^{1875}R^{359} + 1433P^3Q^{1875}R^{358} + 2237P^6Q^{1875}R^{357} + 2219P^9Q^{1875}R^{356} + 425PQ^{1876}R^{358} + \\
& 941P^4Q^{1876}R^{357} + 2241P^7Q^{1876}R^{356} + 2325P^{10}Q^{1876}R^{355} + 2324P^2Q^{1877}R^{357} + \\
& 966P^5Q^{1877}R^{356} + 288P^8Q^{1877}R^{355} + 1060Q^{1878}R^{357} + 704P^3Q^{1878}R^{356} + 1971P^6Q^{1878}R^{355} + \\
& 585P^9Q^{1878}R^{354} + 2171PQ^{1879}R^{356} + 1423P^4Q^{1879}R^{355} + 502P^7Q^{1879}R^{354} + 2251P^{10}Q^{1879}R^{353} + \\
& 248P^2Q^{1880}R^{355} + 1477P^5Q^{1880}R^{354} + 1697P^8Q^{1880}R^{353} + 525Q^{1881}R^{355} + 288P^3Q^{1881}R^{354} + \\
& 1900P^6Q^{1881}R^{353} + 213P^9Q^{1881}R^{352} + 1476PQ^{1882}R^{354} + 2081P^4Q^{1882}R^{353} + 1833P^7Q^{1882}R^{352} + \\
& 1411P^{10}Q^{1882}R^{351} + 1847P^2Q^{1883}R^{353} + 615P^5Q^{1883}R^{352} + 796P^8Q^{1883}R^{351} + \\
& 2153Q^{1884}R^{353} + 310P^3Q^{1884}R^{352} + 1081P^6Q^{1884}R^{351} + 702P^9Q^{1884}R^{350} + 1917PQ^{1885}R^{352} + \\
& 1402P^4Q^{1885}R^{351} + 1488P^7Q^{1885}R^{350} + 1302P^{10}Q^{1885}R^{349} + 715P^2Q^{1886}R^{351} + \\
& 1520P^5Q^{1886}R^{350} + 1798P^8Q^{1886}R^{349} + 1522Q^{1887}R^{351} + 662P^3Q^{1887}R^{350} + 280P^6Q^{1887}R^{349} + \\
& 2171P^9Q^{1887}R^{348} + 336PQ^{1888}R^{350} + 1830P^4Q^{1888}R^{349} + 744P^7Q^{1888}R^{348} + 2064P^{10}Q^{1888}R^{347} + \\
& 2328P^2Q^{1889}R^{349} + 1455P^5Q^{1889}R^{348} + 457P^8Q^{1889}R^{347} + 261Q^{1890}R^{349} + 384P^3Q^{1890}R^{348} + \\
& 2239P^6Q^{1890}R^{347} + 2062P^9Q^{1890}R^{346} + 681PQ^{1891}R^{348} + 1848P^4Q^{1891}R^{347} + 2075P^7Q^{1891}R^{346} + \\
& 1038P^{10}Q^{1891}R^{345} + 217P^2Q^{1892}R^{347} + 1583P^5Q^{1892}R^{346} + 412P^8Q^{1892}R^{345} + 2269Q^{1893}R^{347} + \\
& 2177P^3Q^{1893}R^{346} + 475P^6Q^{1893}R^{345} + 139P^9Q^{1893}R^{344} + 2351PQ^{1894}R^{346} + 1330P^4Q^{1894}R^{345} + \\
& 2135P^7Q^{1894}R^{344} + 224P^{10}Q^{1894}R^{343} + 1172P^2Q^{1895}R^{345} + 209P^5Q^{1895}R^{344} + \\
& 1455P^8Q^{1895}R^{343} + 657Q^{1896}R^{345} + 324P^3Q^{1896}R^{344} + 1830P^6Q^{1896}R^{343} + 366P^9Q^{1896}R^{342} + \\
& 1952PQ^{1897}R^{344} + 955P^4Q^{1897}R^{343} + 241P^7Q^{1897}R^{342} + 1324P^{10}Q^{1897}R^{341} + 1005P^2Q^{1898}R^{343} + \\
& 953P^5Q^{1898}R^{342} + 1034P^8Q^{1898}R^{341} + 738Q^{1899}R^{343} + 235P^3Q^{1899}R^{342} + 1270P^6Q^{1899}R^{341} + \\
& 650P^9Q^{1899}R^{340} + 796PQ^{1900}R^{342} + 1140P^4Q^{1900}R^{341} + 1357P^7Q^{1900}R^{340} + 1266P^{10}Q^{1900}R^{339} + \\
& 1695P^2Q^{1901}R^{341} + 1271P^5Q^{1901}R^{340} + 928P^8Q^{1901}R^{339} + 609Q^{1902}R^{341} + 474P^3Q^{1902}R^{340} + \\
& 932P^6Q^{1902}R^{339} + 865P^9Q^{1902}R^{338} + 1111PQ^{1903}R^{340} + 1796P^4Q^{1903}R^{339} + 956P^7Q^{1903}R^{338} + \\
& 1427P^{10}Q^{1903}R^{337} + 1046P^2Q^{1904}R^{339} + 2403P^5Q^{1904}R^{338} + 1058P^8Q^{1904}R^{337} + \\
& 341Q^{1905}R^{339} + 1068P^3Q^{1905}R^{338} + 1364P^6Q^{1905}R^{337} + 1728P^9Q^{1905}R^{336} + 1668PQ^{1906}R^{338} + \\
& 530P^4Q^{1906}R^{337} + 2088P^7Q^{1906}R^{336} + 752P^{10}Q^{1906}R^{335} + 662P^2Q^{1907}R^{337} + 181P^5Q^{1907}R^{336} + \\
& 994P^8Q^{1907}R^{335} + 741Q^{1908}R^{337} + 447P^3Q^{1908}R^{336} + 806P^6Q^{1908}R^{335} + 1298P^9Q^{1908}R^{334} + \\
& 1367PQ^{1909}R^{336} + 2276P^4Q^{1909}R^{335} + 1628P^7Q^{1909}R^{334} + 231P^{10}Q^{1909}R^{333} + 944P^2Q^{1910}R^{335} + \\
& 2401P^5Q^{1910}R^{334} + 1946P^8Q^{1910}R^{333} + 1619Q^{1911}R^{335} + 2303P^3Q^{1911}R^{334} + 37P^6Q^{1911}R^{333} + \\
& 685P^9Q^{1911}R^{332} + 743PQ^{1912}R^{334} + 77P^4Q^{1912}R^{333} + 2367P^7Q^{1912}R^{332} + 1957P^{10}Q^{1912}R^{331} + \\
& 1018P^2Q^{1913}R^{333} + 1907P^5Q^{1913}R^{332} + 1414P^8Q^{1913}R^{331} + 91Q^{1914}R^{333} + 154P^3Q^{1914}R^{332} + \\
& 2345P^6Q^{1914}R^{331} + 1682P^9Q^{1914}R^{330} + 491PQ^{1915}R^{332} + 241P^4Q^{1915}R^{331} + 963P^7Q^{1915}R^{330} + \\
& 1054P^{10}Q^{1915}R^{329} + 2344P^2Q^{1916}R^{331} + 1282P^5Q^{1916}R^{330} + 1640P^8Q^{1916}R^{329} + \\
& 767Q^{1917}R^{331} + 1137P^3Q^{1917}R^{330} + 162P^6Q^{1917}R^{329} + 2387P^9Q^{1917}R^{328} + 2145PQ^{1918}R^{330} + \\
& 473P^4Q^{1918}R^{329} + 2323P^7Q^{1918}R^{328} + 1148P^{10}Q^{1918}R^{327} + 2203P^2Q^{1919}R^{329} + \\
& 1061P^5Q^{1919}R^{328} + 1351P^8Q^{1919}R^{327} + 1458Q^{1920}R^{329} + 2248P^3Q^{1920}R^{328} + 1396P^6Q^{1920}R^{327} + \\
& 798P^9Q^{1920}R^{326} + 752PQ^{1921}R^{328} + 150P^4Q^{1921}R^{327} + 1046P^7Q^{1921}R^{326} + 856P^{10}Q^{1921}R^{325} + \\
& 1639P^2Q^{1922}R^{327} + 953P^5Q^{1922}R^{326} + 344P^8Q^{1922}R^{325} + 462Q^{1923}R^{327} + 1430P^3Q^{1923}R^{326} + \\
& 2295P^6Q^{1923}R^{325} + 1940P^9Q^{1923}R^{324} + 712PQ^{1924}R^{326} + 162P^4Q^{1924}R^{325} + 42P^7Q^{1924}R^{324} + \\
& 2351P^{10}Q^{1924}R^{323} + 522P^2Q^{1925}R^{325} + 2357P^5Q^{1925}R^{324} + 34P^8Q^{1925}R^{323} + 572Q^{1926}R^{325} + \\
& 58P^3Q^{1926}R^{324} + 3P^6Q^{1926}R^{323} + 2401P^9Q^{1926}R^{322} + 433PQ^{1927}R^{324} + 651P^4Q^{1927}R^{323} + \\
& 2000P^7Q^{1927}R^{322} + 1666P^{10}Q^{1927}R^{321} + 1240P^2Q^{1928}R^{323} + 2145P^5Q^{1928}R^{322} + \\
& 907P^8Q^{1928}R^{321} + 575Q^{1929}R^{323} + 810P^3Q^{1929}R^{322} + 91P^6Q^{1929}R^{321} + 1976P^9Q^{1929}R^{320} + \\
& 1922PQ^{1930}R^{322} + 1617P^4Q^{1930}R^{321} + 1651P^7Q^{1930}R^{320} + 178P^{10}Q^{1930}R^{319} + \\
& 174P^2Q^{1931}R^{321} + 918P^5Q^{1931}R^{320} + 310P^8Q^{1931}R^{319} + 190Q^{1932}R^{321} + 2264P^3Q^{1932}R^{320} + \\
& 2301P^6Q^{1932}R^{319} + 2172P^9Q^{1932}R^{318} + 1104PQ^{1933}R^{320} + 710P^4Q^{1933}R^{319} + 691P^7Q^{1933}R^{318} +
\end{aligned}$$

$$\begin{aligned}
& 1549P^{10}Q^{1933}R^{317} + 1751P^2Q^{1934}R^{319} + 254P^5Q^{1934}R^{318} + 2371P^8Q^{1934}R^{317} + 988Q^{1935}R^{319} + \\
& 1487P^3Q^{1935}R^{318} + 1521P^6Q^{1935}R^{317} + 455P^9Q^{1935}R^{316} + 1262PQ^{1936}R^{318} + 1737P^4Q^{1936}R^{317} + \\
& 1726P^7Q^{1936}R^{316} + 1407P^{10}Q^{1936}R^{315} + 280P^2Q^{1937}R^{317} + 377P^5Q^{1937}R^{316} + \\
& 1985P^8Q^{1937}R^{315} + 1752Q^{1938}R^{317} + 136P^3Q^{1938}R^{316} + 1263P^6Q^{1938}R^{315} + 1389P^9Q^{1938}R^{314} + \\
& 1910PQ^{1939}R^{316} + 799P^4Q^{1939}R^{315} + 1264P^7Q^{1939}R^{314} + 1833P^{10}Q^{1939}R^{313} + \\
& 865P^2Q^{1940}R^{315} + 1118P^5Q^{1940}R^{314} + 1923P^8Q^{1940}R^{313} + 2089Q^{1941}R^{315} + 2223P^3Q^{1941}R^{314} + \\
& 1056P^6Q^{1941}R^{313} + 425P^9Q^{1941}R^{312} + 2280PQ^{1942}R^{314} + 639P^4Q^{1942}R^{313} + 715P^7Q^{1942}R^{312} + \\
& 1178P^{10}Q^{1942}R^{311} + 1828P^2Q^{1943}R^{313} + 2247P^5Q^{1943}R^{312} + 315P^8Q^{1943}R^{311} + \\
& 677Q^{1944}R^{313} + 2122P^3Q^{1944}R^{312} + 271P^6Q^{1944}R^{311} + 2355P^9Q^{1944}R^{310} + 1669PQ^{1945}R^{312} + \\
& 594P^4Q^{1945}R^{311} + 1438P^7Q^{1945}R^{310} + 605P^{10}Q^{1945}R^{309} + 235P^2Q^{1946}R^{311} + 75P^5Q^{1946}R^{310} + \\
& 2320P^8Q^{1946}R^{309} + 986Q^{1947}R^{311} + 748P^3Q^{1947}R^{310} + 253P^6Q^{1947}R^{309} + 2140P^9Q^{1947}R^{308} + \\
& 13PQ^{1948}R^{310} + 53P^4Q^{1948}R^{309} + 683P^7Q^{1948}R^{308} + 2237P^{10}Q^{1948}R^{307} + 31P^2Q^{1949}R^{309} + \\
& 1720P^5Q^{1949}R^{308} + 1511P^8Q^{1949}R^{307} + 42Q^{1950}R^{309} + 812P^3Q^{1950}R^{308} + 2139P^6Q^{1950}R^{307} + \\
& 105P^9Q^{1950}R^{306} + 1111PQ^{1951}R^{308} + 1630P^4Q^{1951}R^{307} + 169P^7Q^{1951}R^{306} + 1900P^{10}Q^{1951}R^{305} + \\
& 756P^2Q^{1952}R^{307} + 228P^5Q^{1952}R^{306} + 1658P^8Q^{1952}R^{305} + 2158Q^{1953}R^{307} + 1988P^3Q^{1953}R^{306} + \\
& 199P^6Q^{1953}R^{305} + 377P^9Q^{1953}R^{304} + 1281PQ^{1954}R^{306} + 2047P^4Q^{1954}R^{305} + 472P^7Q^{1954}R^{304} + \\
& 761P^{10}Q^{1954}R^{303} + 463P^2Q^{1955}R^{305} + 731P^5Q^{1955}R^{304} + 693P^8Q^{1955}R^{303} + 2255Q^{1956}R^{305} + \\
& 2204P^3Q^{1956}R^{304} + 82P^6Q^{1956}R^{303} + 2061P^9Q^{1956}R^{302} + 630PQ^{1957}R^{304} + 337P^4Q^{1957}R^{303} + \\
& 2410P^7Q^{1957}R^{302} + 847P^{10}Q^{1957}R^{301} + 1490P^2Q^{1958}R^{303} + 2180P^5Q^{1958}R^{302} + \\
& 1927P^8Q^{1958}R^{301} + 1408Q^{1959}R^{303} + 2287P^3Q^{1959}R^{302} + 1854P^6Q^{1959}R^{301} + 1252P^9Q^{1959}R^{300} + \\
& 1128PQ^{1960}R^{302} + 429P^4Q^{1960}R^{301} + 955P^7Q^{1960}R^{300} + 743P^{10}Q^{1960}R^{299} + 1049P^2Q^{1961}R^{301} + \\
& 1918P^5Q^{1961}R^{300} + 1918P^8Q^{1961}R^{299} + 411Q^{1962}R^{301} + 1321P^3Q^{1962}R^{300} + 2103P^6Q^{1962}R^{299} + \\
& 599P^9Q^{1962}R^{298} + 865PQ^{1963}R^{300} + 1930P^4Q^{1963}R^{299} + 355P^7Q^{1963}R^{298} + 1727P^{10}Q^{1963}R^{297} + \\
& 216P^2Q^{1964}R^{299} + 1891P^5Q^{1964}R^{298} + 511P^8Q^{1964}R^{297} + 599Q^{1965}R^{299} + 774P^3Q^{1965}R^{298} + \\
& 181P^6Q^{1965}R^{297} + 377P^9Q^{1965}R^{296} + 300PQ^{1966}R^{298} + 1044P^4Q^{1966}R^{297} + 2141P^7Q^{1966}R^{296} + \\
& 1042P^{10}Q^{1966}R^{295} + 780P^2Q^{1967}R^{297} + 1404P^5Q^{1967}R^{296} + 1407P^8Q^{1967}R^{295} + \\
& 593Q^{1968}R^{297} + 905P^3Q^{1968}R^{296} + 460P^6Q^{1968}R^{295} + 1223P^9Q^{1968}R^{294} + 2371PQ^{1969}R^{296} + \\
& 574P^4Q^{1969}R^{295} + 1796P^7Q^{1969}R^{294} + 182P^{10}Q^{1969}R^{293} + 761P^2Q^{1970}R^{295} + 1856P^5Q^{1970}R^{294} + \\
& 558P^8Q^{1970}R^{293} + 236Q^{1971}R^{295} + 2270P^3Q^{1971}R^{294} + 996P^6Q^{1971}R^{293} + 1944P^9Q^{1971}R^{292} + \\
& 522PQ^{1972}R^{294} + 962P^4Q^{1972}R^{293} + 1085P^7Q^{1972}R^{292} + 939P^{10}Q^{1972}R^{291} + 2248P^2Q^{1973}R^{293} + \\
& 267P^5Q^{1973}R^{292} + 1274P^8Q^{1973}R^{291} + 2162Q^{1974}R^{293} + 2382P^3Q^{1974}R^{292} + 1237P^6Q^{1974}R^{291} + \\
& 791P^9Q^{1974}R^{290} + 2249PQ^{1975}R^{292} + 1554P^4Q^{1975}R^{291} + 2116P^7Q^{1975}R^{290} + 59P^{10}Q^{1975}R^{289} + \\
& 1794P^2Q^{1976}R^{291} + 2288P^5Q^{1976}R^{290} + 2131P^8Q^{1976}R^{289} + 1581Q^{1977}R^{291} + 966P^3Q^{1977}R^{290} + \\
& 310P^6Q^{1977}R^{289} + 1674P^9Q^{1977}R^{288} + 1519PQ^{1978}R^{290} + 1650P^4Q^{1978}R^{289} + 1244P^7Q^{1978}R^{288} + \\
& 1194P^{10}Q^{1978}R^{287} + 940P^2Q^{1979}R^{289} + 1663P^5Q^{1979}R^{288} + 839P^8Q^{1979}R^{287} + 356Q^{1980}R^{289} + \\
& 1931P^3Q^{1980}R^{288} + 1449P^6Q^{1980}R^{287} + 2274P^9Q^{1980}R^{286} + 1788PQ^{1981}R^{288} + \\
& 1495P^4Q^{1981}R^{287} + 1155P^7Q^{1981}R^{286} + 1623P^{10}Q^{1981}R^{285} + 535P^2Q^{1982}R^{287} + \\
& 646P^5Q^{1982}R^{286} + 1345P^8Q^{1982}R^{285} + 2260Q^{1983}R^{287} + 2181P^3Q^{1983}R^{286} + 1749P^6Q^{1983}R^{285} + \\
& 1876P^9Q^{1983}R^{284} + 173PQ^{1984}R^{286} + 2230P^4Q^{1984}R^{285} + 406P^7Q^{1984}R^{284} + 966P^{10}Q^{1984}R^{283} + \\
& 204P^2Q^{1985}R^{285} + 131P^5Q^{1985}R^{284} + 2106P^8Q^{1985}R^{283} + 2200Q^{1986}R^{285} + 867P^3Q^{1986}R^{284} + \\
& 1467P^6Q^{1986}R^{283} + 420P^9Q^{1986}R^{282} + 748PQ^{1987}R^{284} + 2231P^4Q^{1987}R^{283} + 784P^7Q^{1987}R^{282} + \\
& 2252P^{10}Q^{1987}R^{281} + 1499P^2Q^{1988}R^{283} + 608P^5Q^{1988}R^{282} + 2405P^8Q^{1988}R^{281} + 1275Q^{1989}R^{283} + \\
& 1519P^3Q^{1989}R^{282} + 663P^6Q^{1989}R^{281} + 760P^9Q^{1989}R^{280} + 774PQ^{1990}R^{282} + 1250P^4Q^{1990}R^{281} + \\
& 1187P^7Q^{1990}R^{280} + 393P^{10}Q^{1990}R^{279} + 1251P^2Q^{1991}R^{281} + 2341P^5Q^{1991}R^{280} + \\
& 293P^8Q^{1991}R^{279} + 2397Q^{1992}R^{281} + 1168P^3Q^{1992}R^{280} + 1623P^6Q^{1992}R^{279} + 338P^9Q^{1992}R^{278} + \\
& 234PQ^{1993}R^{280} + 2383P^4Q^{1993}R^{279} + 1046P^7Q^{1993}R^{278} + 1593P^{10}Q^{1993}R^{277} + 294P^2Q^{1994}R^{279} + \\
& 2199P^5Q^{1994}R^{278} + 2228P^8Q^{1994}R^{277} + 864Q^{1995}R^{279} + 575P^3Q^{1995}R^{278} + 554P^6Q^{1995}R^{277} + \\
& 1160P^9Q^{1995}R^{276} + 1818PQ^{1996}R^{278} + 1867P^4Q^{1996}R^{277} + 311P^7Q^{1996}R^{276} + 75P^{10}Q^{1996}R^{275} + \\
& 1935P^2Q^{1997}R^{277} + 961P^5Q^{1997}R^{276} + 2054P^8Q^{1997}R^{275} + 1942Q^{1998}R^{277} + 2041P^3Q^{1998}R^{276} +
\end{aligned}$$

$$\begin{aligned}
& 1087P^6Q^{1998}R^{275} + 469P^9Q^{1998}R^{274} + 1974PQ^{1999}R^{276} + 2158P^4Q^{1999}R^{275} + 946P^7Q^{1999}R^{274} + \\
& 1826P^{10}Q^{1999}R^{273} + 792P^2Q^{2000}R^{275} + 2240P^5Q^{2000}R^{274} + 1310P^8Q^{2000}R^{273} + 2031Q^{2001}R^{275} + \\
& 1192P^3Q^{2001}R^{274} + 1132P^6Q^{2001}R^{273} + 956P^9Q^{2001}R^{272} + 1913PQ^{2002}R^{274} + 2078P^4Q^{2002}R^{273} + \\
& 913P^7Q^{2002}R^{272} + 1079P^{10}Q^{2002}R^{271} + 1045P^2Q^{2003}R^{273} + 37P^5Q^{2003}R^{272} + 1899P^8Q^{2003}R^{271} + \\
& 358Q^{2004}R^{273} + 1257P^3Q^{2004}R^{272} + 269P^6Q^{2004}R^{271} + 1946P^9Q^{2004}R^{270} + 1226PQ^{2005}R^{272} + \\
& 1185P^4Q^{2005}R^{271} + 1716P^7Q^{2005}R^{270} + 2249P^{10}Q^{2005}R^{269} + 878P^2Q^{2006}R^{271} + \\
& 1034P^5Q^{2006}R^{270} + 1110P^8Q^{2006}R^{269} + 110Q^{2007}R^{271} + 1274P^3Q^{2007}R^{270} + 627P^6Q^{2007}R^{269} + \\
& 361P^9Q^{2007}R^{268} + 1110PQ^{2008}R^{270} + 837P^4Q^{2008}R^{269} + 1890P^7Q^{2008}R^{268} + 1930P^{10}Q^{2008}R^{267} + \\
& 866P^2Q^{2009}R^{269} + 879P^5Q^{2009}R^{268} + 1441P^8Q^{2009}R^{267} + 1462Q^{2010}R^{269} + 1537P^3Q^{2010}R^{268} + \\
& 2123P^6Q^{2010}R^{267} + 1271P^9Q^{2010}R^{266} + 2032PQ^{2011}R^{268} + 1422P^4Q^{2011}R^{267} + \\
& 1606P^7Q^{2011}R^{266} + 1029P^{10}Q^{2011}R^{265} + 201P^2Q^{2012}R^{267} + 2130P^5Q^{2012}R^{266} + \\
& 23P^8Q^{2012}R^{265} + 1538Q^{2013}R^{267} + 925P^3Q^{2013}R^{266} + 595P^6Q^{2013}R^{265} + 481P^9Q^{2013}R^{264} + \\
& 2118PQ^{2014}R^{266} + 883P^4Q^{2014}R^{265} + 1637P^7Q^{2014}R^{264} + 989P^{10}Q^{2014}R^{263} + 2225P^2Q^{2015}R^{265} + \\
& 282P^5Q^{2015}R^{264} + 662P^8Q^{2015}R^{263} + 105Q^{2016}R^{265} + 1670P^3Q^{2016}R^{264} + 1568P^6Q^{2016}R^{263} + \\
& 2273P^9Q^{2016}R^{262} + 42PQ^{2017}R^{264} + 2099P^4Q^{2017}R^{263} + 1045P^7Q^{2017}R^{262} + 152P^{10}Q^{2017}R^{261} + \\
& 551P^2Q^{2018}R^{263} + 2187P^5Q^{2018}R^{262} + 1697P^8Q^{2018}R^{261} + 1312Q^{2019}R^{263} + 72P^3Q^{2019}R^{262} + \\
& 2283P^6Q^{2019}R^{261} + 128P^9Q^{2019}R^{260} + 1524PQ^{2020}R^{262} + 2126P^4Q^{2020}R^{261} + 1343P^7Q^{2020}R^{260} + \\
& 1780P^{10}Q^{2020}R^{259} + 1170P^2Q^{2021}R^{261} + 526P^5Q^{2021}R^{260} + 473P^8Q^{2021}R^{259} + 1722Q^{2022}R^{261} + \\
& 1851P^3Q^{2022}R^{260} + 2223P^6Q^{2022}R^{259} + 322P^9Q^{2022}R^{258} + 2404PQ^{2023}R^{260} + 1034P^4Q^{2023}R^{259} + \\
& 1154P^7Q^{2023}R^{258} + 1431P^{10}Q^{2023}R^{257} + 1804P^2Q^{2024}R^{259} + 787P^5Q^{2024}R^{258} + \\
& 1437P^8Q^{2024}R^{257} + 1898Q^{2025}R^{259} + 277P^3Q^{2025}R^{258} + 1667P^6Q^{2025}R^{257} + 1923P^9Q^{2025}R^{256} + \\
& 1035PQ^{2026}R^{258} + 2341P^4Q^{2026}R^{257} + 1351P^7Q^{2026}R^{256} + 2169P^{10}Q^{2026}R^{255} + \\
& 972P^2Q^{2027}R^{257} + 1883P^5Q^{2027}R^{256} + 905P^8Q^{2027}R^{255} + 1490Q^{2028}R^{257} + 1968P^3Q^{2028}R^{256} + \\
& 293P^6Q^{2028}R^{255} + 1557P^9Q^{2028}R^{254} + 674PQ^{2029}R^{256} + 1061P^4Q^{2029}R^{255} + 2050P^7Q^{2029}R^{254} + \\
& 1516P^{10}Q^{2029}R^{253} + 2037P^2Q^{2030}R^{255} + 452P^5Q^{2030}R^{254} + 2086P^8Q^{2030}R^{253} + 2156Q^{2031}R^{255} + \\
& 1543P^3Q^{2031}R^{254} + 1667P^6Q^{2031}R^{253} + 274P^9Q^{2031}R^{252} + 1457PQ^{2032}R^{254} + 1951P^4Q^{2032}R^{253} + \\
& 916P^7Q^{2032}R^{252} + 1521P^{10}Q^{2032}R^{251} + 1185P^2Q^{2033}R^{253} + 531P^5Q^{2033}R^{252} + 592P^8Q^{2033}R^{251} + \\
& 1947Q^{2034}R^{253} + 567P^3Q^{2034}R^{252} + 1340P^6Q^{2034}R^{251} + 1125P^9Q^{2034}R^{250} + 2196PQ^{2035}R^{252} + \\
& 455P^4Q^{2035}R^{251} + 1100P^7Q^{2035}R^{250} + 1588P^{10}Q^{2035}R^{249} + 1192P^2Q^{2036}R^{251} + \\
& 1725P^5Q^{2036}R^{250} + 2195P^8Q^{2036}R^{249} + 633Q^{2037}R^{251} + 858P^3Q^{2037}R^{250} + 470P^6Q^{2037}R^{249} + \\
& 1068P^9Q^{2037}R^{248} + 623PQ^{2038}R^{250} + 2363P^4Q^{2038}R^{249} + 832P^7Q^{2038}R^{248} + 413P^{10}Q^{2038}R^{247} + \\
& 1637P^2Q^{2039}R^{249} + 1741P^5Q^{2039}R^{248} + 274P^8Q^{2039}R^{247} + 300Q^{2040}R^{249} + 2288P^3Q^{2040}R^{248} + \\
& 957P^6Q^{2040}R^{247} + 1278P^9Q^{2040}R^{246} + 1293PQ^{2041}R^{248} + 1662P^4Q^{2041}R^{247} + 477P^7Q^{2041}R^{246} + \\
& 1540P^{10}Q^{2041}R^{245} + 1296P^2Q^{2042}R^{247} + 684P^5Q^{2042}R^{246} + 2247P^8Q^{2042}R^{245} + 307Q^{2043}R^{247} + \\
& 2140P^3Q^{2043}R^{246} + 2033P^6Q^{2043}R^{245} + 257P^9Q^{2043}R^{244} + 361PQ^{2044}R^{246} + 1105P^4Q^{2044}R^{245} + \\
& 552P^7Q^{2044}R^{244} + 1041P^{10}Q^{2044}R^{243} + 1655P^2Q^{2045}R^{245} + 1642P^5Q^{2045}R^{244} + \\
& 898P^8Q^{2045}R^{243} + 766Q^{2046}R^{245} + 1662P^3Q^{2046}R^{244} + 419P^6Q^{2046}R^{243} + 2308P^9Q^{2046}R^{242} + \\
& 1128PQ^{2047}R^{244} + 2130P^4Q^{2047}R^{243} + 274P^7Q^{2047}R^{242} + 2402P^{10}Q^{2047}R^{241} + \\
& 1393P^2Q^{2048}R^{243} + 443P^5Q^{2048}R^{242} + 1304P^8Q^{2048}R^{241} + 865Q^{2049}R^{243} + 1905P^3Q^{2049}R^{242} + \\
& 1822P^6Q^{2049}R^{241} + 431P^9Q^{2049}R^{240} + 1754PQ^{2050}R^{242} + 687P^4Q^{2050}R^{241} + 1560P^7Q^{2050}R^{240} + \\
& 1091P^{10}Q^{2050}R^{239} + 1750P^2Q^{2051}R^{241} + 140P^5Q^{2051}R^{240} + 1555P^8Q^{2051}R^{239} + \\
& 87Q^{2052}R^{241} + 273P^3Q^{2052}R^{240} + 1459P^6Q^{2052}R^{239} + 1989P^9Q^{2052}R^{238} + 228PQ^{2053}R^{240} + \\
& 1102P^4Q^{2053}R^{239} + 1607P^7Q^{2053}R^{238} + 1342P^{10}Q^{2053}R^{237} + 1756P^2Q^{2054}R^{239} + \\
& 1490P^5Q^{2054}R^{238} + 1439P^8Q^{2054}R^{237} + 803Q^{2055}R^{239} + 933P^3Q^{2055}R^{238} + 688P^6Q^{2055}R^{237} + \\
& 2344P^9Q^{2055}R^{236} + 734PQ^{2056}R^{238} + 2409P^4Q^{2056}R^{237} + 33P^7Q^{2056}R^{236} + 731P^{10}Q^{2056}R^{235} + \\
& 422P^2Q^{2057}R^{237} + 14P^5Q^{2057}R^{236} + 2078P^8Q^{2057}R^{235} + 536Q^{2058}R^{237} + 1993P^3Q^{2058}R^{236} + \\
& 2129P^6Q^{2058}R^{235} + 198P^9Q^{2058}R^{234} + 1570PQ^{2059}R^{236} + 96P^4Q^{2059}R^{235} + 2402P^7Q^{2059}R^{234} + \\
& 1910P^{10}Q^{2059}R^{233} + 2065P^2Q^{2060}R^{235} + 301P^5Q^{2060}R^{234} + 826P^8Q^{2060}R^{233} + 301Q^{2061}R^{235} + \\
& 227P^3Q^{2061}R^{234} + 1623P^6Q^{2061}R^{233} + 831P^9Q^{2061}R^{232} + 184PQ^{2062}R^{234} + 843P^4Q^{2062}R^{233} +
\end{aligned}$$

$$\begin{aligned}
& 1877P^7Q^{2062}R^{232} + 2356P^{10}Q^{2062}R^{231} + 1826P^2Q^{2063}R^{233} + 785P^5Q^{2063}R^{232} + \\
& 145P^8Q^{2063}R^{231} + 226Q^{2064}R^{233} + 1229P^3Q^{2064}R^{232} + 1016P^6Q^{2064}R^{231} + 2278P^9Q^{2064}R^{230} + \\
& 2306PQ^{2065}R^{232} + 1538P^4Q^{2065}R^{231} + 297P^7Q^{2065}R^{230} + 661P^{10}Q^{2065}R^{229} + 1958P^2Q^{2066}R^{231} + \\
& 1125P^5Q^{2066}R^{230} + 1119P^8Q^{2066}R^{229} + 2008Q^{2067}R^{231} + 129P^3Q^{2067}R^{230} + 1578P^6Q^{2067}R^{229} + \\
& 38P^9Q^{2067}R^{228} + 198PQ^{2068}R^{230} + 1645P^4Q^{2068}R^{229} + 1348P^7Q^{2068}R^{228} + 2124P^{10}Q^{2068}R^{227} + \\
& 920P^2Q^{2069}R^{229} + 1124P^5Q^{2069}R^{228} + 2369P^8Q^{2069}R^{227} + 1535Q^{2070}R^{229} + 2145P^3Q^{2070}R^{228} + \\
& 1656P^6Q^{2070}R^{227} + 2189P^9Q^{2070}R^{226} + 776PQ^{2071}R^{228} + 2178P^4Q^{2071}R^{227} + 1521P^7Q^{2071}R^{226} + \\
& 1755P^{10}Q^{2071}R^{225} + 2324P^2Q^{2072}R^{227} + 1345P^5Q^{2072}R^{226} + 129P^8Q^{2072}R^{225} + 1022Q^{2073}R^{227} + \\
& 123P^3Q^{2073}R^{226} + 1047P^6Q^{2073}R^{225} + 2194P^9Q^{2073}R^{224} + 2064PQ^{2074}R^{226} + 259P^4Q^{2074}R^{225} + \\
& 1635P^7Q^{2074}R^{224} + 2128P^{10}Q^{2074}R^{223} + 571P^2Q^{2075}R^{225} + 1339P^5Q^{2075}R^{224} + \\
& 146P^8Q^{2075}R^{223} + 846Q^{2076}R^{225} + 201P^3Q^{2076}R^{224} + 1922P^6Q^{2076}R^{223} + 2245P^9Q^{2076}R^{222} + \\
& 837PQ^{2077}R^{224} + 1482P^4Q^{2077}R^{223} + 586P^7Q^{2077}R^{222} + 222P^{10}Q^{2077}R^{221} + 769P^2Q^{2078}R^{223} + \\
& 1201P^5Q^{2078}R^{222} + 861P^8Q^{2078}R^{221} + 434Q^{2079}R^{223} + 1859P^3Q^{2079}R^{222} + 2024P^6Q^{2079}R^{221} + \\
& 738P^9Q^{2079}R^{220} + 1565PQ^{2080}R^{222} + 72P^4Q^{2080}R^{221} + 829P^7Q^{2080}R^{220} + 189P^{10}Q^{2080}R^{219} + \\
& 784P^2Q^{2081}R^{221} + 629P^5Q^{2081}R^{220} + 2090P^8Q^{2081}R^{219} + 2291Q^{2082}R^{221} + 1474P^3Q^{2082}R^{220} + \\
& 1173P^6Q^{2082}R^{219} + 984P^9Q^{2082}R^{218} + 187PQ^{2083}R^{220} + 1712P^4Q^{2083}R^{219} + 1174P^7Q^{2083}R^{218} + \\
& 1236P^{10}Q^{2083}R^{217} + 2395P^2Q^{2084}R^{219} + 577P^5Q^{2084}R^{218} + 1053P^8Q^{2084}R^{217} + 1030Q^{2085}R^{219} + \\
& 181P^3Q^{2085}R^{218} + 1591P^6Q^{2085}R^{217} + 1997P^9Q^{2085}R^{216} + 130PQ^{2086}R^{218} + 1498P^4Q^{2086}R^{217} + \\
& 938P^7Q^{2086}R^{216} + 1190P^{10}Q^{2086}R^{215} + 893P^2Q^{2087}R^{217} + 2045P^5Q^{2087}R^{216} + 238P^8Q^{2087}R^{215} + \\
& 81Q^{2088}R^{217} + 675P^3Q^{2088}R^{216} + 994P^6Q^{2088}R^{215} + 340P^9Q^{2088}R^{214} + 2409PQ^{2089}R^{216} + \\
& 1249P^4Q^{2089}R^{215} + 1676P^7Q^{2089}R^{214} + 338P^{10}Q^{2089}R^{213} + 1262P^2Q^{2090}R^{215} + \\
& 1601P^5Q^{2090}R^{214} + 1905P^8Q^{2090}R^{213} + 2079Q^{2091}R^{215} + 2224P^3Q^{2091}R^{214} + 1048P^6Q^{2091}R^{213} + \\
& 1113P^9Q^{2091}R^{212} + 713PQ^{2092}R^{214} + 227P^4Q^{2092}R^{213} + 1869P^7Q^{2092}R^{212} + 366P^{10}Q^{2092}R^{211} + \\
& 1263P^2Q^{2093}R^{213} + 2109P^5Q^{2093}R^{212} + 1690P^8Q^{2093}R^{211} + 2205Q^{2094}R^{213} + 891P^3Q^{2094}R^{212} + \\
& 1237P^6Q^{2094}R^{211} + 1208P^9Q^{2094}R^{210} + 1777PQ^{2095}R^{212} + 458P^4Q^{2095}R^{211} + 705P^7Q^{2095}R^{210} + \\
& 770P^{10}Q^{2095}R^{209} + 1856P^2Q^{2096}R^{211} + 1708P^5Q^{2096}R^{210} + 46P^8Q^{2096}R^{209} + 193Q^{2097}R^{211} + \\
& 462P^3Q^{2097}R^{210} + 217P^6Q^{2097}R^{209} + 404P^9Q^{2097}R^{208} + 39PQ^{2098}R^{210} + 710P^4Q^{2098}R^{209} + \\
& 2034P^7Q^{2098}R^{208} + 1287P^{10}Q^{2098}R^{207} + 1078P^2Q^{2099}R^{209} + 1525P^5Q^{2099}R^{208} + \\
& 1980P^8Q^{2099}R^{207} + 2183Q^{2100}R^{209} + 1130P^3Q^{2100}R^{208} + 633P^6Q^{2100}R^{207} + 1742P^9Q^{2100}R^{206} + \\
& 2112PQ^{2101}R^{208} + 2108P^4Q^{2101}R^{207} + 1319P^7Q^{2101}R^{206} + 1381P^{10}Q^{2101}R^{205} + \\
& 1795P^2Q^{2102}R^{207} + 491P^5Q^{2102}R^{206} + 659P^8Q^{2102}R^{205} + 1664Q^{2103}R^{207} + 1907P^3Q^{2103}R^{206} + \\
& 1810P^6Q^{2103}R^{205} + 1703P^9Q^{2103}R^{204} + 1802PQ^{2104}R^{206} + 203P^4Q^{2104}R^{205} + 1004P^7Q^{2104}R^{204} + \\
& 2071P^{10}Q^{2104}R^{203} + 1736P^2Q^{2105}R^{205} + 1461P^5Q^{2105}R^{204} + 170P^8Q^{2105}R^{203} + \\
& 1320Q^{2106}R^{205} + 1613P^3Q^{2106}R^{204} + 1127P^6Q^{2106}R^{203} + 1998P^9Q^{2106}R^{202} + 634PQ^{2107}R^{204} + \\
& 1931P^4Q^{2107}R^{203} + 2158P^7Q^{2107}R^{202} + 2390P^{10}Q^{2107}R^{201} + 1588P^2Q^{2108}R^{203} + \\
& 1376P^5Q^{2108}R^{202} + 1541P^8Q^{2108}R^{201} + 2099Q^{2109}R^{203} + 2229P^3Q^{2109}R^{202} + 728P^6Q^{2109}R^{201} + \\
& 1467P^9Q^{2109}R^{200} + 842PQ^{2110}R^{202} + 975P^4Q^{2110}R^{201} + 2052P^7Q^{2110}R^{200} + 985P^{10}Q^{2110}R^{199} + \\
& 279P^2Q^{2111}R^{201} + 1931P^5Q^{2111}R^{200} + 1428P^8Q^{2111}R^{199} + 195Q^{2112}R^{201} + 1091P^3Q^{2112}R^{200} + \\
& 1877P^6Q^{2112}R^{199} + 240P^9Q^{2112}R^{198} + 2198PQ^{2113}R^{200} + 2404P^4Q^{2113}R^{199} + 1171P^7Q^{2113}R^{198} + \\
& 2107P^{10}Q^{2113}R^{197} + 2382P^2Q^{2114}R^{199} + 1132P^5Q^{2114}R^{198} + 2049P^8Q^{2114}R^{197} + \\
& 510Q^{2115}R^{199} + 1391P^3Q^{2115}R^{198} + 101P^6Q^{2115}R^{197} + 247P^9Q^{2115}R^{196} + 960PQ^{2116}R^{198} + \\
& 204P^4Q^{2116}R^{197} + 2304P^7Q^{2116}R^{196} + 155P^{10}Q^{2116}R^{195} + 1080P^2Q^{2117}R^{197} + \\
& 2041P^5Q^{2117}R^{196} + 647P^8Q^{2117}R^{195} + 1154Q^{2118}R^{197} + 1428P^3Q^{2118}R^{196} + 2P^6Q^{2118}R^{195} + \\
& 2297P^9Q^{2118}R^{194} + 1984PQ^{2119}R^{196} + 283P^4Q^{2119}R^{195} + 871P^7Q^{2119}R^{194} + 1526P^{10}Q^{2119}R^{193} + \\
& 1781P^2Q^{2120}R^{195} + 10P^5Q^{2120}R^{194} + 554P^8Q^{2120}R^{193} + 155Q^{2121}R^{195} + 1744P^3Q^{2121}R^{194} + \\
& 637P^6Q^{2121}R^{193} + 1943P^9Q^{2121}R^{192} + 2262PQ^{2122}R^{194} + 960P^4Q^{2122}R^{193} + 887P^7Q^{2122}R^{192} + \\
& 1187P^{10}Q^{2122}R^{191} + 766P^2Q^{2123}R^{193} + 1779P^5Q^{2123}R^{192} + 733P^8Q^{2123}R^{191} + 874Q^{2124}R^{193} + \\
& 397P^3Q^{2124}R^{192} + 531P^6Q^{2124}R^{191} + 1564P^9Q^{2124}R^{190} + 1722PQ^{2125}R^{192} + 446P^4Q^{2125}R^{191} + \\
& 652P^7Q^{2125}R^{190} + 821P^{10}Q^{2125}R^{189} + 277P^2Q^{2126}R^{191} + 1887P^5Q^{2126}R^{190} + 1217P^8Q^{2126}R^{189} +
\end{aligned}$$

$$\begin{aligned}
& 243Q^{2127}R^{191} + 572P^3Q^{2127}R^{190} + 1947P^6Q^{2127}R^{189} + 2050P^9Q^{2127}R^{188} + 1853PQ^{2128}R^{190} + \\
& 812P^4Q^{2128}R^{189} + 1391P^7Q^{2128}R^{188} + 1417P^{10}Q^{2128}R^{187} + 1339P^2Q^{2129}R^{189} + \\
& 387P^5Q^{2129}R^{188} + 1063P^8Q^{2129}R^{187} + 273Q^{2130}R^{189} + 359P^3Q^{2130}R^{188} + 1568P^6Q^{2130}R^{187} + \\
& 781P^9Q^{2130}R^{186} + 405PQ^{2131}R^{188} + 714P^4Q^{2131}R^{187} + 2264P^7Q^{2131}R^{186} + 1111P^{10}Q^{2131}R^{185} + \\
& 2149P^2Q^{2132}R^{187} + 655P^5Q^{2132}R^{186} + 1905P^8Q^{2132}R^{185} + 2306Q^{2133}R^{187} + 438P^3Q^{2133}R^{186} + \\
& 763P^6Q^{2133}R^{185} + 2178P^9Q^{2133}R^{184} + 774PQ^{2134}R^{186} + 1413P^4Q^{2134}R^{185} + 655P^7Q^{2134}R^{184} + \\
& 1024P^{10}Q^{2134}R^{183} + 1301P^2Q^{2135}R^{185} + 711P^5Q^{2135}R^{184} + 811P^8Q^{2135}R^{183} + 2252Q^{2136}R^{185} + \\
& 1685P^3Q^{2136}R^{184} + 201P^6Q^{2136}R^{183} + 2128P^9Q^{2136}R^{182} + 176PQ^{2137}R^{184} + 592P^4Q^{2137}R^{183} + \\
& 269P^7Q^{2137}R^{182} + 144P^{10}Q^{2137}R^{181} + 1319P^2Q^{2138}R^{183} + 306P^5Q^{2138}R^{182} + 256P^8Q^{2138}R^{181} + \\
& 649Q^{2139}R^{183} + 2110P^3Q^{2139}R^{182} + 1371P^6Q^{2139}R^{181} + 1073P^9Q^{2139}R^{180} + 2302PQ^{2140}R^{182} + \\
& 1744P^4Q^{2140}R^{181} + 1113P^7Q^{2140}R^{180} + 1351P^{10}Q^{2140}R^{179} + 1475P^2Q^{2141}R^{181} + \\
& 2062P^5Q^{2141}R^{180} + 1884P^8Q^{2141}R^{179} + 763Q^{2142}R^{181} + 2352P^3Q^{2142}R^{180} + 2141P^6Q^{2142}R^{179} + \\
& 1458P^9Q^{2142}R^{178} + 1333PQ^{2143}R^{180} + 641P^4Q^{2143}R^{179} + 2036P^7Q^{2143}R^{178} + \\
& 1739P^{10}Q^{2143}R^{177} + 1651P^2Q^{2144}R^{179} + 1010P^5Q^{2144}R^{178} + 1102P^8Q^{2144}R^{177} + \\
& 1095Q^{2145}R^{179} + 2042P^3Q^{2145}R^{178} + 1635P^6Q^{2145}R^{177} + 449P^9Q^{2145}R^{176} + 2006PQ^{2146}R^{178} + \\
& 618P^4Q^{2146}R^{177} + 1635P^7Q^{2146}R^{176} + 2381P^{10}Q^{2146}R^{175} + 1024P^2Q^{2147}R^{177} + \\
& 493P^5Q^{2147}R^{176} + 1628P^8Q^{2147}R^{175} + 1514Q^{2148}R^{177} + 335P^3Q^{2148}R^{176} + 1737P^6Q^{2148}R^{175} + \\
& 539P^9Q^{2148}R^{174} + 1268PQ^{2149}R^{176} + 746P^4Q^{2149}R^{175} + 2141P^7Q^{2149}R^{174} + 257P^{10}Q^{2149}R^{173} + \\
& 1773P^2Q^{2150}R^{175} + 1793P^5Q^{2150}R^{174} + 1525P^8Q^{2150}R^{173} + 2252Q^{2151}R^{175} + 2184P^3Q^{2151}R^{174} + \\
& 758P^6Q^{2151}R^{173} + 1199P^9Q^{2151}R^{172} + 2098PQ^{2152}R^{174} + 1376P^4Q^{2152}R^{173} + 2185P^7Q^{2152}R^{172} + \\
& 766P^{10}Q^{2152}R^{171} + 1007P^2Q^{2153}R^{173} + 801P^5Q^{2153}R^{172} + 2365P^8Q^{2153}R^{171} + 562Q^{2154}R^{173} + \\
& 161P^3Q^{2154}R^{172} + 2010P^6Q^{2154}R^{171} + 2018P^9Q^{2154}R^{170} + 2159PQ^{2155}R^{172} + 809P^4Q^{2155}R^{171} + \\
& 800P^7Q^{2155}R^{170} + 1486P^{10}Q^{2155}R^{169} + 680P^2Q^{2156}R^{171} + 2335P^5Q^{2156}R^{170} + \\
& 2366P^8Q^{2156}R^{169} + 479Q^{2157}R^{171} + 1637P^6Q^{2157}R^{169} + 726P^9Q^{2157}R^{168} + 421PQ^{2158}R^{170} + \\
& 1120P^4Q^{2158}R^{169} + 2086P^7Q^{2158}R^{168} + 2141P^{10}Q^{2158}R^{167} + 2389P^2Q^{2159}R^{169} + \\
& 859P^5Q^{2159}R^{168} + 486P^8Q^{2159}R^{167} + 1669Q^{2160}R^{169} + 629P^3Q^{2160}R^{168} + 1714P^6Q^{2160}R^{167} + \\
& 2387P^9Q^{2160}R^{166} + 350PQ^{2161}R^{168} + 528P^4Q^{2161}R^{167} + 846P^7Q^{2161}R^{166} + 1070P^{10}Q^{2161}R^{165} + \\
& 1131P^2Q^{2162}R^{167} + 2387P^5Q^{2162}R^{166} + 1895P^8Q^{2162}R^{165} + 1230Q^{2163}R^{167} + 1546P^3Q^{2163}R^{166} + \\
& 702P^6Q^{2163}R^{165} + 153P^9Q^{2163}R^{164} + 303PQ^{2164}R^{166} + 1154P^4Q^{2164}R^{165} + 2310P^7Q^{2164}R^{164} + \\
& 1665P^{10}Q^{2164}R^{163} + 176P^2Q^{2165}R^{165} + 561P^5Q^{2165}R^{164} + 2364P^8Q^{2165}R^{163} + 1964Q^{2166}R^{165} + \\
& 679P^3Q^{2166}R^{164} + 1916P^6Q^{2166}R^{163} + 771P^9Q^{2166}R^{162} + 576PQ^{2167}R^{164} + 1880P^4Q^{2167}R^{163} + \\
& 799P^7Q^{2167}R^{162} + 15P^{10}Q^{2167}R^{161} + 496P^2Q^{2168}R^{163} + 1729P^5Q^{2168}R^{162} + 1148P^8Q^{2168}R^{161} + \\
& 196Q^{2169}R^{163} + 933P^3Q^{2169}R^{162} + 229P^6Q^{2169}R^{161} + 2371P^9Q^{2169}R^{160} + 717PQ^{2170}R^{162} + \\
& 714P^4Q^{2170}R^{161} + 314P^7Q^{2170}R^{160} + 2251P^{10}Q^{2170}R^{159} + 1270P^2Q^{2171}R^{161} + \\
& 1401P^5Q^{2171}R^{160} + 536P^8Q^{2171}R^{159} + 688Q^{2172}R^{161} + 255P^3Q^{2172}R^{160} + 12P^6Q^{2172}R^{159} + \\
& 986P^9Q^{2172}R^{158} + 2166PQ^{2173}R^{160} + 2209P^4Q^{2173}R^{159} + 625P^7Q^{2173}R^{158} + 2123P^{10}Q^{2173}R^{157} + \\
& 2106P^2Q^{2174}R^{159} + 474P^5Q^{2174}R^{158} + 707P^8Q^{2174}R^{157} + 1069Q^{2175}R^{159} + 2386P^3Q^{2175}R^{158} + \\
& 1917P^6Q^{2175}R^{157} + 1665P^9Q^{2175}R^{156} + 1328PQ^{2176}R^{158} + 857P^4Q^{2176}R^{157} + 2044P^7Q^{2176}R^{156} + \\
& 456P^{10}Q^{2176}R^{155} + 1755P^2Q^{2177}R^{157} + 1476P^5Q^{2177}R^{156} + 976P^8Q^{2177}R^{155} + 1463Q^{2178}R^{157} + \\
& 553P^3Q^{2178}R^{156} + 2064P^6Q^{2178}R^{155} + 992P^9Q^{2178}R^{154} + 56PQ^{2179}R^{156} + 1557P^4Q^{2179}R^{155} + \\
& 1978P^7Q^{2179}R^{154} + 1412P^{10}Q^{2179}R^{153} + 1219P^2Q^{2180}R^{155} + 1201P^5Q^{2180}R^{154} + \\
& 375P^8Q^{2180}R^{153} + 2279Q^{2181}R^{155} + 129P^3Q^{2181}R^{154} + 1542P^6Q^{2181}R^{153} + 2274P^9Q^{2181}R^{152} + \\
& 1888PQ^{2182}R^{154} + 523P^4Q^{2182}R^{153} + 1318P^7Q^{2182}R^{152} + 1839P^{10}Q^{2182}R^{151} + \\
& 519P^2Q^{2183}R^{153} + 478P^5Q^{2183}R^{152} + 1839P^8Q^{2183}R^{151} + 228Q^{2184}R^{153} + 830P^3Q^{2184}R^{152} + \\
& 908P^6Q^{2184}R^{151} + 1185P^9Q^{2184}R^{150} + 1475PQ^{2185}R^{152} + 650P^4Q^{2185}R^{151} + 1918P^7Q^{2185}R^{150} + \\
& 1183P^{10}Q^{2185}R^{149} + 1088P^2Q^{2186}R^{151} + 904P^5Q^{2186}R^{150} + 2138P^8Q^{2186}R^{149} + \\
& 1395Q^{2187}R^{151} + 429P^3Q^{2187}R^{150} + 1773P^6Q^{2187}R^{149} + 117P^9Q^{2187}R^{148} + 1057PQ^{2188}R^{150} + \\
& 1216P^4Q^{2188}R^{149} + 995P^7Q^{2188}R^{148} + 53P^{10}Q^{2188}R^{147} + 2290P^2Q^{2189}R^{149} + 24P^5Q^{2189}R^{148} + \\
& 1238P^8Q^{2189}R^{147} + 1330Q^{2190}R^{149} + 487P^3Q^{2190}R^{148} + 2289P^6Q^{2190}R^{147} + 1059P^9Q^{2190}R^{146} +
\end{aligned}$$



$$\begin{aligned}
& 30PQ^{2191}R^{148} + 122P^4Q^{2191}R^{147} + 709P^7Q^{2191}R^{146} + 1704P^{10}Q^{2191}R^{145} + 332P^2Q^{2192}R^{147} + \\
& 1641P^5Q^{2192}R^{146} + 132P^8Q^{2192}R^{145} + 1347Q^{2193}R^{147} + 781P^3Q^{2193}R^{146} + 1471P^6Q^{2193}R^{145} + \\
& 2178P^9Q^{2193}R^{144} + 1077PQ^{2194}R^{146} + 366P^4Q^{2194}R^{145} + 110P^7Q^{2194}R^{144} + 1111P^{10}Q^{2194}R^{143} + \\
& 1921P^2Q^{2195}R^{145} + 985P^5Q^{2195}R^{144} + 691P^8Q^{2195}R^{143} + 651Q^{2196}R^{145} + 970P^3Q^{2196}R^{144} + \\
& 460P^6Q^{2196}R^{143} + 237P^9Q^{2196}R^{142} + 378PQ^{2197}R^{144} + 29P^4Q^{2197}R^{143} + 228P^7Q^{2197}R^{142} + \\
& 1195P^{10}Q^{2197}R^{141} + 1163P^2Q^{2198}R^{143} + 1732P^5Q^{2198}R^{142} + 1555P^8Q^{2198}R^{141} + 475Q^{2199}R^{143} + \\
& 1421P^3Q^{2199}R^{142} + 912P^6Q^{2199}R^{141} + 1056P^9Q^{2199}R^{140} + 864PQ^{2200}R^{142} + 585P^4Q^{2200}R^{141} + \\
& 1886P^7Q^{2200}R^{140} + 1248P^{10}Q^{2200}R^{139} + 1554P^2Q^{2201}R^{141} + 1053P^5Q^{2201}R^{140} + \\
& 1984P^8Q^{2201}R^{139} + 1844Q^{2202}R^{141} + 271P^3Q^{2202}R^{140} + 843P^6Q^{2202}R^{139} + 2121P^9Q^{2202}R^{138} + \\
& 252PQ^{2203}R^{140} + 454P^4Q^{2203}R^{139} + 1328P^7Q^{2203}R^{138} + 2254P^{10}Q^{2203}R^{137} + 1752P^2Q^{2204}R^{139} + \\
& 215P^5Q^{2204}R^{138} + 1938P^8Q^{2204}R^{137} + 571Q^{2205}R^{139} + 1900P^3Q^{2205}R^{138} + 1820P^6Q^{2205}R^{137} + \\
& 808P^9Q^{2205}R^{136} + 1508PQ^{2206}R^{138} + 1620P^4Q^{2206}R^{137} + 563P^7Q^{2206}R^{136} + 906P^{10}Q^{2206}R^{135} + \\
& 1781P^2Q^{2207}R^{137} + 326P^5Q^{2207}R^{136} + 727P^8Q^{2207}R^{135} + 1295Q^{2208}R^{137} + 1144P^3Q^{2208}R^{136} + \\
& 1581P^6Q^{2208}R^{135} + 2205P^9Q^{2208}R^{134} + 1665PQ^{2209}R^{136} + 560P^4Q^{2209}R^{135} + 2227P^7Q^{2209}R^{134} + \\
& 2299P^{10}Q^{2209}R^{133} + 610P^2Q^{2210}R^{135} + 1508P^5Q^{2210}R^{134} + 263P^8Q^{2210}R^{133} + 1619Q^{2211}R^{135} + \\
& 1694P^3Q^{2211}R^{134} + 2307P^6Q^{2211}R^{133} + 906P^9Q^{2211}R^{132} + 1161PQ^{2212}R^{134} + 1673P^4Q^{2212}R^{133} + \\
& 1671P^7Q^{2212}R^{132} + 874P^{10}Q^{2212}R^{131} + 60P^2Q^{2213}R^{133} + 1353P^5Q^{2213}R^{132} + 1374P^8Q^{2213}R^{131} + \\
& 1785Q^{2214}R^{133} + 696P^3Q^{2214}R^{132} + 1443P^6Q^{2214}R^{131} + 600P^9Q^{2214}R^{130} + 1740PQ^{2215}R^{132} + \\
& 1530P^4Q^{2215}R^{131} + 1584P^7Q^{2215}R^{130} + 1306P^{10}Q^{2215}R^{129} + 452P^2Q^{2216}R^{131} + \\
& 2319P^5Q^{2216}R^{130} + 421P^8Q^{2216}R^{129} + 477Q^{2217}R^{131} + 813P^3Q^{2217}R^{130} + 1085P^6Q^{2217}R^{129} + \\
& 1495P^9Q^{2217}R^{128} + 687PQ^{2218}R^{130} + 591P^4Q^{2218}R^{129} + 1849P^7Q^{2218}R^{128} + 1423P^{10}Q^{2218}R^{127} + \\
& 81P^2Q^{2219}R^{129} + 1681P^5Q^{2219}R^{128} + 2224P^8Q^{2219}R^{127} + 2363Q^{2220}R^{129} + 1779P^3Q^{2220}R^{128} + \\
& 2014P^6Q^{2220}R^{127} + 348P^9Q^{2220}R^{126} + 192PQ^{2221}R^{128} + 1212P^4Q^{2221}R^{127} + 1729P^7Q^{2221}R^{126} + \\
& 2194P^{10}Q^{2221}R^{125} + 59P^2Q^{2222}R^{127} + 1140P^5Q^{2222}R^{126} + 1043P^8Q^{2222}R^{125} + 1182Q^{2223}R^{127} + \\
& 2310P^3Q^{2223}R^{126} + 7P^6Q^{2223}R^{125} + 139P^9Q^{2223}R^{124} + 2109PQ^{2224}R^{126} + 1846P^4Q^{2224}R^{125} + \\
& 1591P^7Q^{2224}R^{124} + 1468P^{10}Q^{2224}R^{123} + 1415P^2Q^{2225}R^{125} + 1163P^5Q^{2225}R^{124} + \\
& 1280P^8Q^{2225}R^{123} + 1927Q^{2226}R^{125} + 1299P^3Q^{2226}R^{124} + 301P^6Q^{2226}R^{123} + 104P^9Q^{2226}R^{122} + \\
& 244PQ^{2227}R^{124} + 2237P^4Q^{2227}R^{123} + 533P^7Q^{2227}R^{122} + 476P^{10}Q^{2227}R^{121} + 1462P^2Q^{2228}R^{123} + \\
& 850P^5Q^{2228}R^{122} + 1754P^8Q^{2228}R^{121} + 1714Q^{2229}R^{123} + 1443P^3Q^{2229}R^{122} + 831P^6Q^{2229}R^{121} + \\
& 305P^9Q^{2229}R^{120} + 684PQ^{2230}R^{122} + 2109P^4Q^{2230}R^{121} + 567P^7Q^{2230}R^{120} + 367P^{10}Q^{2230}R^{119} + \\
& 2370P^2Q^{2231}R^{121} + 1617P^5Q^{2231}R^{120} + 2P^8Q^{2231}R^{119} + 286Q^{2232}R^{121} + 1043P^3Q^{2232}R^{120} + \\
& 884P^6Q^{2232}R^{119} + 1221P^9Q^{2232}R^{118} + 1654PQ^{2233}R^{120} + 1603P^4Q^{2233}R^{119} + 2248P^7Q^{2233}R^{118} + \\
& 2117P^{10}Q^{2233}R^{117} + 2383P^2Q^{2234}R^{119} + 678P^5Q^{2234}R^{118} + 1142P^8Q^{2234}R^{117} + 1948Q^{2235}R^{119} + \\
& 1446P^3Q^{2235}R^{118} + 236P^6Q^{2235}R^{117} + 1426P^9Q^{2235}R^{116} + 2004PQ^{2236}R^{118} + 1591P^4Q^{2236}R^{117} + \\
& 1197P^7Q^{2236}R^{116} + 2369P^{10}Q^{2236}R^{115} + 1552P^2Q^{2237}R^{117} + 2029P^5Q^{2237}R^{116} + \\
& 261P^8Q^{2237}R^{115} + 2194Q^{2238}R^{117} + 2279P^3Q^{2238}R^{116} + 425P^6Q^{2238}R^{115} + 311P^9Q^{2238}R^{114} + \\
& 2133PQ^{2239}R^{116} + 865P^4Q^{2239}R^{115} + 20P^7Q^{2239}R^{114} + 17P^{10}Q^{2239}R^{113} + 898P^2Q^{2240}R^{115} + \\
& 538P^5Q^{2240}R^{114} + 722P^8Q^{2240}R^{113} + 1520Q^{2241}R^{115} + 838P^3Q^{2241}R^{114} + 1633P^6Q^{2241}R^{113} + \\
& 1481P^9Q^{2241}R^{112} + 179PQ^{2242}R^{114} + 1456P^4Q^{2242}R^{113} + 1888P^7Q^{2242}R^{112} + 960P^{10}Q^{2242}R^{111} + \\
& 805P^2Q^{2243}R^{113} + 1604P^5Q^{2243}R^{112} + 1461P^8Q^{2243}R^{111} + 354Q^{2244}R^{113} + 1810P^3Q^{2244}R^{112} + \\
& 1889P^6Q^{2244}R^{111} + 2330P^9Q^{2244}R^{110} + 944PQ^{2245}R^{112} + 1211P^4Q^{2245}R^{111} + 1031P^7Q^{2245}R^{110} + \\
& 2085P^{10}Q^{2245}R^{109} + 1173P^2Q^{2246}R^{111} + 1727P^5Q^{2246}R^{110} + 1600P^8Q^{2246}R^{109} + 235Q^{2247}R^{111} + \\
& 333P^3Q^{2247}R^{110} + 1504P^6Q^{2247}R^{109} + 1614P^9Q^{2247}R^{108} + 544PQ^{2248}R^{110} + 337P^4Q^{2248}R^{109} + \\
& 1838P^7Q^{2248}R^{108} + 2296P^{10}Q^{2248}R^{107} + 1367P^2Q^{2249}R^{109} + 2060P^5Q^{2249}R^{108} + \\
& 959P^8Q^{2249}R^{107} + 1674Q^{2250}R^{109} + 1764P^3Q^{2250}R^{108} + 1434P^6Q^{2250}R^{107} + 571P^9Q^{2250}R^{106} + \\
& 185PQ^{2251}R^{108} + 1509P^4Q^{2251}R^{107} + 1864P^7Q^{2251}R^{106} + 980P^{10}Q^{2251}R^{105} + 1491P^2Q^{2252}R^{107} + \\
& 1666P^5Q^{2252}R^{106} + 774P^8Q^{2252}R^{105} + 1126Q^{2253}R^{107} + 1662P^3Q^{2253}R^{106} + 1014P^6Q^{2253}R^{105} + \\
& 313P^9Q^{2253}R^{104} + 1245PQ^{2254}R^{106} + 1069P^4Q^{2254}R^{105} + 2014P^7Q^{2254}R^{104} + 902P^{10}Q^{2254}R^{103} + \\
& 1582P^2Q^{2255}R^{105} + 237P^5Q^{2255}R^{104} + 1947P^8Q^{2255}R^{103} + 363Q^{2256}R^{105} + 167P^3Q^{2256}R^{104} +
\end{aligned}$$

$$\begin{aligned}
&184P^6Q^{2256}R^{103} + 1731P^9Q^{2256}R^{102} + 1042PQ^{2257}R^{104} + 835P^4Q^{2257}R^{103} + 1939P^7Q^{2257}R^{102} + \\
&953P^{10}Q^{2257}R^{101} + 964P^2Q^{2258}R^{103} + 448P^5Q^{2258}R^{102} + 942P^8Q^{2258}R^{101} + 1853Q^{2259}R^{103} + \\
&2369P^3Q^{2259}R^{102} + 971P^6Q^{2259}R^{101} + 1636P^9Q^{2259}R^{100} + 1057PQ^{2260}R^{102} + 2088P^4Q^{2260}R^{101} + \\
&2322P^7Q^{2260}R^{100} + 1169P^{10}Q^{2260}R^{99} + 1447P^2Q^{2261}R^{101} + 711P^5Q^{2261}R^{100} + 1326P^8Q^{2261}R^{99} + \\
&479Q^{2262}R^{101} + 178P^3Q^{2262}R^{100} + 1223P^6Q^{2262}R^{99} + 667P^9Q^{2262}R^{98} + 1790PQ^{2263}R^{100} + \\
&2406P^4Q^{2263}R^{99} + 2249P^7Q^{2263}R^{98} + 565P^{10}Q^{2263}R^{97} + 1391P^2Q^{2264}R^{99} + 246P^5Q^{2264}R^{98} + \\
&551P^8Q^{2264}R^{97} + 368Q^{2265}R^{99} + 2228P^3Q^{2265}R^{98} + 2272P^6Q^{2265}R^{97} + 250P^9Q^{2265}R^{96} + \\
&1925PQ^{2266}R^{98} + 868P^4Q^{2266}R^{97} + 975P^7Q^{2266}R^{96} + 2063P^{10}Q^{2266}R^{95} + 650P^2Q^{2267}R^{97} + \\
&2074P^5Q^{2267}R^{96} + 2075P^8Q^{2267}R^{95} + 1081Q^{2268}R^{97} + 2203P^3Q^{2268}R^{96} + 1374P^6Q^{2268}R^{95} + \\
&348P^9Q^{2268}R^{94} + 2409PQ^{2269}R^{96} + 681P^4Q^{2269}R^{95} + 431P^7Q^{2269}R^{94} + 584P^{10}Q^{2269}R^{93} + \\
&1157P^2Q^{2270}R^{95} + 920P^5Q^{2270}R^{94} + 2344P^8Q^{2270}R^{93} + 1554Q^{2271}R^{95} + 1066P^3Q^{2271}R^{94} + \\
&1710P^6Q^{2271}R^{93} + 77P^9Q^{2271}R^{92} + 1700PQ^{2272}R^{94} + 693P^4Q^{2272}R^{93} + 1482P^7Q^{2272}R^{92} + \\
&1605P^{10}Q^{2272}R^{91} + 1959P^2Q^{2273}R^{93} + 2340P^5Q^{2273}R^{92} + 1642P^8Q^{2273}R^{91} + 282Q^{2274}R^{93} + \\
&880P^3Q^{2274}R^{92} + 1554P^6Q^{2274}R^{91} + 796P^9Q^{2274}R^{90} + 1277PQ^{2275}R^{92} + 1439P^4Q^{2275}R^{91} + \\
&2332P^7Q^{2275}R^{90} + 856P^{10}Q^{2275}R^{89} + 1298P^2Q^{2276}R^{91} + 652P^5Q^{2276}R^{90} + 589P^8Q^{2276}R^{89} + \\
&1398Q^{2277}R^{91} + 16P^3Q^{2277}R^{90} + 78P^6Q^{2277}R^{89} + 123P^9Q^{2277}R^{88} + 2210PQ^{2278}R^{90} + \\
&1655P^4Q^{2278}R^{89} + 200P^7Q^{2278}R^{88} + 2350P^{10}Q^{2278}R^{87} + 2154P^2Q^{2279}R^{89} + 1827P^5Q^{2279}R^{88} + \\
&35P^8Q^{2279}R^{87} + 1010Q^{2280}R^{89} + 2260P^3Q^{2280}R^{88} + 1965P^6Q^{2280}R^{87} + 2368P^9Q^{2280}R^{86} + \\
&1134PQ^{2281}R^{88} + 2359P^4Q^{2281}R^{87} + 1394P^7Q^{2281}R^{86} + 1557P^{10}Q^{2281}R^{85} + 1017P^2Q^{2282}R^{87} + \\
&1136P^5Q^{2282}R^{86} + 1190P^8Q^{2282}R^{85} + 839Q^{2283}R^{87} + 2352P^3Q^{2283}R^{86} + 1936P^6Q^{2283}R^{85} + \\
&1122P^9Q^{2283}R^{84} + 122PQ^{2284}R^{86} + 1539P^4Q^{2284}R^{85} + 755P^7Q^{2284}R^{84} + 1466P^{10}Q^{2284}R^{83} + \\
&1754P^2Q^{2285}R^{85} + 278P^5Q^{2285}R^{84} + 1722P^8Q^{2285}R^{83} + 1937Q^{2286}R^{85} + 502P^3Q^{2286}R^{84} + \\
&994P^6Q^{2286}R^{83} + 1327P^9Q^{2286}R^{82} + 2399PQ^{2287}R^{84} + 1374P^4Q^{2287}R^{83} + 1798P^7Q^{2287}R^{82} + \\
&1163P^{10}Q^{2287}R^{81} + 1204P^2Q^{2288}R^{83} + 927P^5Q^{2288}R^{82} + 1624P^8Q^{2288}R^{81} + 137Q^{2289}R^{83} + \\
&1340P^3Q^{2289}R^{82} + 670P^6Q^{2289}R^{81} + 2274P^9Q^{2289}R^{80} + 1235PQ^{2290}R^{82} + 1120P^4Q^{2290}R^{81} + \\
&1052P^7Q^{2290}R^{80} + 924P^{10}Q^{2290}R^{79} + 496P^2Q^{2291}R^{81} + 824P^5Q^{2291}R^{80} + 505P^8Q^{2291}R^{79} + \\
&2096Q^{2292}R^{81} + 677P^3Q^{2292}R^{80} + 1866P^6Q^{2292}R^{79} + 335P^9Q^{2292}R^{78} + 1102PQ^{2293}R^{80} + \\
&258P^4Q^{2293}R^{79} + 1839P^7Q^{2293}R^{78} + 2383P^{10}Q^{2293}R^{77} + 1781P^2Q^{2294}R^{79} + 433P^5Q^{2294}R^{78} + \\
&1928P^8Q^{2294}R^{77} + 1065Q^{2295}R^{79} + 755P^3Q^{2295}R^{78} + 2054P^6Q^{2295}R^{77} + 1098P^9Q^{2295}R^{76} + \\
&233PQ^{2296}R^{78} + 301P^4Q^{2296}R^{77} + 1677P^7Q^{2296}R^{76} + 567P^{10}Q^{2296}R^{75} + 551P^2Q^{2297}R^{77} + \\
&1324P^5Q^{2297}R^{76} + 13P^8Q^{2297}R^{75} + 984Q^{2298}R^{77} + 988P^3Q^{2298}R^{76} + 1380P^6Q^{2298}R^{75} + \\
&2059P^9Q^{2298}R^{74} + 1311PQ^{2299}R^{76} + 1117P^4Q^{2299}R^{75} + 1006P^7Q^{2299}R^{74} + 1722P^{10}Q^{2299}R^{73} + \\
&1482P^2Q^{2300}R^{75} + 223P^5Q^{2300}R^{74} + 1107P^8Q^{2300}R^{73} + 1754Q^{2301}R^{75} + 240P^3Q^{2301}R^{74} + \\
&2318P^6Q^{2301}R^{73} + 457P^9Q^{2301}R^{72} + 2134PQ^{2302}R^{74} + 582P^4Q^{2302}R^{73} + 559P^7Q^{2302}R^{72} + \\
&551P^{10}Q^{2302}R^{71} + 195P^2Q^{2303}R^{73} + 990P^5Q^{2303}R^{72} + 2367P^8Q^{2303}R^{71} + 2266Q^{2304}R^{73} + \\
&1445P^3Q^{2304}R^{72} + 1260P^6Q^{2304}R^{71} + 1094P^9Q^{2304}R^{70} + 2239PQ^{2305}R^{72} + 1061P^4Q^{2305}R^{71} + \\
&2149P^7Q^{2305}R^{70} + 642P^{10}Q^{2305}R^{69} + 889P^2Q^{2306}R^{71} + 1400P^5Q^{2306}R^{70} + 394P^8Q^{2306}R^{69} + \\
&809Q^{2307}R^{71} + 265P^3Q^{2307}R^{70} + 1072P^6Q^{2307}R^{69} + 1999P^9Q^{2307}R^{68} + 15PQ^{2308}R^{70} + \\
&2040P^4Q^{2308}R^{69} + 1673P^7Q^{2308}R^{68} + 295P^{10}Q^{2308}R^{67} + 398P^2Q^{2309}R^{69} + 576P^5Q^{2309}R^{68} + \\
&1708P^8Q^{2309}R^{67} + 1241Q^{2310}R^{69} + 2293P^3Q^{2310}R^{68} + 637P^6Q^{2310}R^{67} + 96P^9Q^{2310}R^{66} + \\
&2241PQ^{2311}R^{68} + 879P^4Q^{2311}R^{67} + 2337P^7Q^{2311}R^{66} + 1779P^{10}Q^{2311}R^{65} + 346P^2Q^{2312}R^{67} + \\
&2051P^5Q^{2312}R^{66} + 385P^8Q^{2312}R^{65} + 1138Q^{2313}R^{67} + 1183P^3Q^{2313}R^{66} + 1616P^6Q^{2313}R^{65} + \\
&165P^9Q^{2313}R^{64} + 1807PQ^{2314}R^{66} + 21P^4Q^{2314}R^{65} + 562P^7Q^{2314}R^{64} + 1098P^{10}Q^{2314}R^{63} + \\
&1949P^2Q^{2315}R^{65} + 2027P^5Q^{2315}R^{64} + 447P^8Q^{2315}R^{63} + 111Q^{2316}R^{65} + 1192P^3Q^{2316}R^{64} + \\
&1712P^6Q^{2316}R^{63} + 409P^9Q^{2316}R^{62} + 269PQ^{2317}R^{64} + 1418P^4Q^{2317}R^{63} + 1899P^7Q^{2317}R^{62} + \\
&2071P^{10}Q^{2317}R^{61} + 1327P^2Q^{2318}R^{63} + 75P^5Q^{2318}R^{62} + 721P^8Q^{2318}R^{61} + 1658Q^{2319}R^{63} + \\
&2069P^3Q^{2319}R^{62} + 2095P^6Q^{2319}R^{61} + 1252P^9Q^{2319}R^{60} + 1557PQ^{2320}R^{62} + 374P^4Q^{2320}R^{61} + \\
&2225P^7Q^{2320}R^{60} + 582P^{10}Q^{2320}R^{59} + 568P^2Q^{2321}R^{61} + 66P^5Q^{2321}R^{60} + 1891P^8Q^{2321}R^{59} + \\
&986Q^{2322}R^{61} + 1422P^3Q^{2322}R^{60} + 1919P^6Q^{2322}R^{59} + 581P^9Q^{2322}R^{58} + 196PQ^{2323}R^{60} +
\end{aligned}$$

$$\begin{aligned}
& 1978P^4Q^{2323}R^{59} + 1557P^7Q^{2323}R^{58} + 659P^{10}Q^{2323}R^{57} + 563P^2Q^{2324}R^{59} + 2021P^5Q^{2324}R^{58} + \\
& 595P^8Q^{2324}R^{57} + 545Q^{2325}R^{59} + 657P^3Q^{2325}R^{58} + 295P^6Q^{2325}R^{57} + 239P^9Q^{2325}R^{56} + \\
& 365PQ^{2326}R^{58} + 1948P^4Q^{2326}R^{57} + 2058P^7Q^{2326}R^{56} + 882P^{10}Q^{2326}R^{55} + 1192P^2Q^{2327}R^{57} + \\
& 729P^5Q^{2327}R^{56} + 2079P^8Q^{2327}R^{55} + 604Q^{2328}R^{57} + 1642P^3Q^{2328}R^{56} + 910P^6Q^{2328}R^{55} + \\
& 1810P^9Q^{2328}R^{54} + 1464PQ^{2329}R^{56} + 1206P^4Q^{2329}R^{55} + 2089P^7Q^{2329}R^{54} + 1367P^{10}Q^{2329}R^{53} + \\
& 1456P^2Q^{2330}R^{55} + 1197P^5Q^{2330}R^{54} + 2394P^8Q^{2330}R^{53} + 409Q^{2331}R^{55} + 437P^3Q^{2331}R^{54} + \\
& 2186P^6Q^{2331}R^{53} + 1996P^9Q^{2331}R^{52} + 1263PQ^{2332}R^{54} + 2169P^4Q^{2332}R^{53} + 1656P^7Q^{2332}R^{52} + \\
& 1232P^{10}Q^{2332}R^{51} + 395P^2Q^{2333}R^{53} + 1197P^5Q^{2333}R^{52} + 998P^8Q^{2333}R^{51} + 1139Q^{2334}R^{53} + \\
& 2325P^3Q^{2334}R^{52} + 1328P^6Q^{2334}R^{51} + 2212P^9Q^{2334}R^{50} + 74PQ^{2335}R^{52} + 173P^4Q^{2335}R^{51} + \\
& 947P^7Q^{2335}R^{50} + 1328P^{10}Q^{2335}R^{49} + 1814P^2Q^{2336}R^{51} + 834P^5Q^{2336}R^{50} + 231P^8Q^{2336}R^{49} + \\
& 1061Q^{2337}R^{51} + 1003P^3Q^{2337}R^{50} + 1764P^6Q^{2337}R^{49} + 2106P^9Q^{2337}R^{48} + 468PQ^{2338}R^{50} + \\
& 2244P^4Q^{2338}R^{49} + 823P^7Q^{2338}R^{48} + 2073P^{10}Q^{2338}R^{47} + 2099P^2Q^{2339}R^{49} + 256P^5Q^{2339}R^{48} + \\
& 720P^8Q^{2339}R^{47} + 211Q^{2340}R^{49} + 217P^3Q^{2340}R^{48} + 2156P^6Q^{2340}R^{47} + 1066P^9Q^{2340}R^{46} + \\
& 440PQ^{2341}R^{48} + 1434P^4Q^{2341}R^{47} + 2214P^7Q^{2341}R^{46} + 2084P^{10}Q^{2341}R^{45} + 206P^2Q^{2342}R^{47} + \\
& 178P^5Q^{2342}R^{46} + 956P^8Q^{2342}R^{45} + 1382Q^{2343}R^{47} + 883P^3Q^{2343}R^{46} + 658P^6Q^{2343}R^{45} + \\
& 1364P^9Q^{2343}R^{44} + 2366PQ^{2344}R^{46} + 1894P^4Q^{2344}R^{45} + 1831P^7Q^{2344}R^{44} + 799P^{10}Q^{2344}R^{43} + \\
& 396P^2Q^{2345}R^{45} + 158P^5Q^{2345}R^{44} + 1250P^8Q^{2345}R^{43} + 488Q^{2346}R^{45} + 435P^3Q^{2346}R^{44} + \\
& 201P^6Q^{2346}R^{43} + 1165P^9Q^{2346}R^{42} + 1028PQ^{2347}R^{44} + 642P^4Q^{2347}R^{43} + 907P^7Q^{2347}R^{42} + \\
& 19P^{10}Q^{2347}R^{41} + 2201P^2Q^{2348}R^{43} + 2279P^5Q^{2348}R^{42} + 1655P^8Q^{2348}R^{41} + 341Q^{2349}R^{43} + \\
& 2269P^3Q^{2349}R^{42} + 2172P^6Q^{2349}R^{41} + 899P^9Q^{2349}R^{40} + 1393PQ^{2350}R^{42} + 2360P^4Q^{2350}R^{41} + \\
& 323P^7Q^{2350}R^{40} + 1468P^{10}Q^{2350}R^{39} + 1860P^2Q^{2351}R^{41} + 580P^5Q^{2351}R^{40} + 400P^8Q^{2351}R^{39} + \\
& 1717Q^{2352}R^{41} + 2032P^3Q^{2352}R^{40} + 24P^6Q^{2352}R^{39} + 687P^9Q^{2352}R^{38} + 2141PQ^{2353}R^{40} + \\
& 583P^4Q^{2353}R^{39} + 1844P^7Q^{2353}R^{38} + 532P^{10}Q^{2353}R^{37} + 1727P^2Q^{2354}R^{39} + 2182P^5Q^{2354}R^{38} + \\
& 572P^8Q^{2354}R^{37} + 1540Q^{2355}R^{39} + 619P^3Q^{2355}R^{38} + 443P^6Q^{2355}R^{37} + 2397P^9Q^{2355}R^{36} + \\
& 1032PQ^{2356}R^{38} + 113P^4Q^{2356}R^{37} + 2406P^7Q^{2356}R^{36} + 778P^{10}Q^{2356}R^{35} + 1870P^2Q^{2357}R^{37} + \\
& 839P^5Q^{2357}R^{36} + 286P^8Q^{2357}R^{35} + 158Q^{2358}R^{37} + 1962P^3Q^{2358}R^{36} + 171P^6Q^{2358}R^{35} + \\
& 1157P^9Q^{2358}R^{34} + 1698PQ^{2359}R^{36} + 805P^4Q^{2359}R^{35} + 698P^7Q^{2359}R^{34} + 1742P^{10}Q^{2359}R^{33} + \\
& 1138P^2Q^{2360}R^{35} + 1437P^5Q^{2360}R^{34} + 87P^8Q^{2360}R^{33} + 2185Q^{2361}R^{35} + 1752P^3Q^{2361}R^{34} + \\
& 156P^6Q^{2361}R^{33} + 2062P^9Q^{2361}R^{32} + 1796PQ^{2362}R^{34} + 2202P^4Q^{2362}R^{33} + 38P^7Q^{2362}R^{32} + \\
& 1085P^{10}Q^{2362}R^{31} + 2092P^2Q^{2363}R^{33} + 2367P^5Q^{2363}R^{32} + 1768P^8Q^{2363}R^{31} + 2322Q^{2364}R^{33} + \\
& 320P^3Q^{2364}R^{32} + 962P^6Q^{2364}R^{31} + 375P^9Q^{2364}R^{30} + 2045PQ^{2365}R^{32} + 50P^4Q^{2365}R^{31} + \\
& 1668P^7Q^{2365}R^{30} + 872P^{10}Q^{2365}R^{29} + 1923P^2Q^{2366}R^{31} + 2073P^5Q^{2366}R^{30} + 90P^8Q^{2366}R^{29} + \\
& 2254Q^{2367}R^{31} + 482P^3Q^{2367}R^{30} + 1120P^6Q^{2367}R^{29} + 980P^9Q^{2367}R^{28} + 2090PQ^{2368}R^{30} + \\
& 1931P^4Q^{2368}R^{29} + 1948P^7Q^{2368}R^{28} + 1325P^{10}Q^{2368}R^{27} + 2284P^2Q^{2369}R^{29} + 2106P^5Q^{2369}R^{28} + \\
& 972P^8Q^{2369}R^{27} + 1246Q^{2370}R^{29} + 1582P^3Q^{2370}R^{28} + 825P^6Q^{2370}R^{27} + 573P^9Q^{2370}R^{26} + \\
& 1880PQ^{2371}R^{28} + 439P^4Q^{2371}R^{27} + 1772P^7Q^{2371}R^{26} + 27P^{10}Q^{2371}R^{25} + 1264P^2Q^{2372}R^{27} + \\
& 1541P^5Q^{2372}R^{26} + 962P^8Q^{2372}R^{25} + 487Q^{2373}R^{27} + 1757P^3Q^{2373}R^{26} + 2195P^6Q^{2373}R^{25} + \\
& 2322P^9Q^{2373}R^{24} + 1825PQ^{2374}R^{26} + 254P^4Q^{2374}R^{25} + 1274P^7Q^{2374}R^{24} + 142P^{10}Q^{2374}R^{23} + \\
& 1445P^2Q^{2375}R^{25} + 1248P^5Q^{2375}R^{24} + 317P^8Q^{2375}R^{23} + 766Q^{2376}R^{25} + 367P^3Q^{2376}R^{24} + \\
& 511P^6Q^{2376}R^{23} + 1464P^9Q^{2376}R^{22} + 1101PQ^{2377}R^{24} + 1424P^4Q^{2377}R^{23} + 998P^7Q^{2377}R^{22} + \\
& 1197P^{10}Q^{2377}R^{21} + 589P^2Q^{2378}R^{23} + 772P^5Q^{2378}R^{22} + 2162P^8Q^{2378}R^{21} + 247Q^{2379}R^{23} + \\
& 1174P^3Q^{2379}R^{22} + 500P^6Q^{2379}R^{21} + 477P^9Q^{2379}R^{20} + 2357PQ^{2380}R^{22} + 733P^4Q^{2380}R^{21} + \\
& 408P^7Q^{2380}R^{20} + 1543P^{10}Q^{2380}R^{19} + 108P^2Q^{2381}R^{21} + 717P^5Q^{2381}R^{20} + 1271P^8Q^{2381}R^{19} + \\
& 1873Q^{2382}R^{21} + 2102P^3Q^{2382}R^{20} + 1098P^6Q^{2382}R^{19} + 272P^9Q^{2382}R^{18} + 2139PQ^{2383}R^{20} + \\
& 919P^4Q^{2383}R^{19} + 1522P^7Q^{2383}R^{18} + 664P^{10}Q^{2383}R^{17} + 341P^2Q^{2384}R^{19} + 2280P^5Q^{2384}R^{18} + \\
& 1322P^8Q^{2384}R^{17} + 922Q^{2385}R^{19} + 1229P^3Q^{2385}R^{18} + 130P^6Q^{2385}R^{17} + 970P^9Q^{2385}R^{16} + \\
& 1951PQ^{2386}R^{18} + 280P^4Q^{2386}R^{17} + 1455P^7Q^{2386}R^{16} + 1198P^{10}Q^{2386}R^{15} + 1918P^2Q^{2387}R^{17} + \\
& 446P^5Q^{2387}R^{16} + 772P^8Q^{2387}R^{15} + 823Q^{2388}R^{17} + 764P^3Q^{2388}R^{16} + 1043P^6Q^{2388}R^{15} + \\
& 287P^9Q^{2388}R^{14} + 865PQ^{2389}R^{16} + 1659P^4Q^{2389}R^{15} + 2158P^7Q^{2389}R^{14} + 811P^{10}Q^{2389}R^{13} +
\end{aligned}$$

$$\begin{aligned}
& 972P^2Q^{2390}R^{15} + 1499P^5Q^{2390}R^{14} + 1728P^8Q^{2390}R^{13} + 1030Q^{2391}R^{15} + 782P^3Q^{2391}R^{14} + \\
& 937P^6Q^{2391}R^{13} + 902P^9Q^{2391}R^{12} + 602PQ^{2392}R^{14} + 1325P^4Q^{2392}R^{13} + 995P^7Q^{2392}R^{12} + \\
& 186P^{10}Q^{2392}R^{11} + 1976P^2Q^{2393}R^{13} + 511P^5Q^{2393}R^{12} + 1441P^8Q^{2393}R^{11} + 1443Q^{2394}R^{13} + \\
& 386P^3Q^{2394}R^{12} + 856P^6Q^{2394}R^{11} + 160P^9Q^{2394}R^{10} + 99PQ^{2395}R^{12} + 68P^4Q^{2395}R^{11} + \\
& 1246P^7Q^{2395}R^{10} + 340P^{10}Q^{2395}R^9 + 765P^2Q^{2396}R^{11} + 692P^5Q^{2396}R^{10} + 2029P^8Q^{2396}R^9 + \\
& 677Q^{2397}R^{11} + 2114P^3Q^{2397}R^{10} + 2050P^6Q^{2397}R^9 + 418P^9Q^{2397}R^8 + 1520PQ^{2398}R^{10} + \\
& 2372P^4Q^{2398}R^9 + 2334P^7Q^{2398}R^8 + 1736P^{10}Q^{2398}R^7 + 899P^2Q^{2399}R^9 + 222P^5Q^{2399}R^8 + \\
& 1311P^8Q^{2399}R^7 + 1598Q^{2400}R^9 + 1839P^3Q^{2400}R^8 + 451P^6Q^{2400}R^7 + 243P^9Q^{2400}R^6 + \\
& 2046PQ^{2401}R^8 + 2004P^4Q^{2401}R^7 + 848P^7Q^{2401}R^6 + 1877P^{10}Q^{2401}R^5 + 1593P^2Q^{2402}R^7 + \\
& 439P^5Q^{2402}R^6 + 515P^8Q^{2402}R^5 + 1103Q^{2403}R^7 + 2008P^3Q^{2403}R^6 + 1839P^6Q^{2403}R^5 + \\
& 225P^9Q^{2403}R^4 + 2194PQ^{2404}R^6 + 1463P^4Q^{2404}R^5 + 2008P^7Q^{2404}R^4 + 367P^{10}Q^{2404}R^3 + \\
& 2216P^2Q^{2405}R^5 + 1958P^5Q^{2405}R^4 + 1984P^8Q^{2405}R^3 + 15Q^{2406}R^5 + 1574P^3Q^{2406}R^4 + \\
& 1043P^6Q^{2406}R^3 + 14P^9Q^{2406}R^2 + 1889PQ^{2407}R^4 + 2365P^4Q^{2407}R^3 + 1935P^7Q^{2407}R^2 + \\
& 412P^{10}Q^{2407}R + 1503P^2Q^{2408}R^3 + 844P^5Q^{2408}R^2 + 1900P^8Q^{2408}R + 2402Q^{2409}R^3 + \\
& 785P^3Q^{2409}R^2 + 800P^6Q^{2409}R + 61P^9Q^{2409} + 53PQ^{2410}R^2 + 77P^4Q^{2410}R + 1572P^7Q^{2410} + \\
& 1689P^2Q^{2411}R + 1232P^5Q^{2411} + 1233Q^{2412}R + 946P^3Q^{2412} + 2245PQ^{2413}) \\
& \equiv Q^{2411}(Q^3 - R^2) \pmod{2411}
\end{aligned}$$