An infinite integer sequence $(S)$ can be generated from the following quadratic equation

$$S(x) = ax^2 + bx + c \qquad [a,\ b,\ c \text{ are non-negative integers}] \text{ and } x = 0 \to \infty \ (x \text{ is integer})$$

$S(x)$ is the $x$-th element of sequence $S$.

For example, if $a = 0$, $b = 1$ and $c = 0$, then $S(x) = x$

So the sequence will be: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, $\ldots\infty$

A fraction $p/q$ ($p$ and $q$ are relatively prime) is associated with the sequence $S$ in such way that

$$\frac{p}{q} = \sum_{x=0}^{\infty} S(x)\left(\frac{1}{10}\right)^{x+1}$$

Here sequence 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, $\ldots\infty$ is associated with fraction

$$\frac{1}{81} = \frac{0}{10} + \frac{1}{10^2} + \frac{2}{10^3} + \frac{3}{10^4} + \ldots = 0.0123456790\ldots$$

(explained in right)

0.0 +
0.01 +
0.002 +
0.0003 +
0.00004 +
0.000005 +
0.0000006 +
0.00000007 +
0.000000008 +
0.0000000009 +
0.00000000010 +
......
________________
0.0123456790...

In summary, for a given triplet $a$, $b$, $c$ there will be a sequence $S$ and for a sequence $S$ there will be a fraction $p/q$

But for this problem fraction $p/q$ will be given. You have to find out how many integer triples $(a, b, c)$ exist for some given limit $L$ where $0 \le a, b, c \le L$.

## Input

Given $T$ ($\le 10^4$) denoting number of test cases. Each case consists of 3 positive integers $p$, $q$ and $L$.

$p$ and $q$ are relatively prime to each other.

$L$ is the maximum value for $a$, $b$, $c$. Denominator $q > 1$ and $p, q \le 10^7$ and $L \le 10^5$

## Output

You have to report the number of **integer** triples $(a, b, c)$ that can be formed where $0 \le a, b, c \le L$.

See sample Input output for format.

## Sample Input

```
3
1 81 100
2 3 20
2 3 100000
```

## Sample Output

```
Case 1: 1
Case 2: 7
Case 3: 21
```