Beauty of AP

Time limit per test: 2 seconds
Memory limit per test: 256 megabytes

Solving problems is fun in competitive programming, right? So let's solve a fun task today too :P.

16th December, the day of victory, the memorable day for our nation. You have planned to celebrate the day with some of your friends by inviting them at your home. Well, nice initiative! But the number of friends to invite not fixed yet. After a while a peculiar idea is come into your mind.

You take a piece of paper and a pencil and started to write an **A**rithmetic **P**rogression (**AP**). The first term of this progression is ***a*** and the common difference between every two adjacent term is ***d***. So if we write the **n** terms of the sequence from left to write and named them as ***S*** = $s_1, s_2, s_3, \ldots s_n$, then the sequence will be, ***S*** = ***a, a + d, a + 2d, a + 3d ….. a + (n - 1) d.***

You define a **prefix** of length ***L*** $(1 \leq \mathrm{L} \leq \mathrm{n})$ (first **L** consecutive numbers) of this **AP** as **good** if the following conditions hold –

- If L = 1 or,
- for every pair of $i, j\ where\ 1 \leq i, j \leq L$, if $i\ != j\ then$ **(s_i % L != s_j % L).**

You always want to invite your friends in such a way that if you invite ***k*** of your friends then the prefix of length ***k*** of aforementioned AP have to be **good**.
Count in how many ways you can invite your friends.
You have to Count this for several cases.

Input:

First line will contain a number T, denoting the number of test cases
Every successive case will contain three numbers $\boldsymbol{a}$, $\boldsymbol{d}$ **and** $\boldsymbol{n}$, where $\boldsymbol{a}$ is the first term of the **AP**, $\boldsymbol{d}$ is the common difference and $\boldsymbol{n}$ is the number of terms in the **AP.**

$1 \leq T \leq 100$
$1 \leq a, n \leq 10^{18}$
$1 \leq d \leq 10^{12}$

Output:

Print a single integer, the number of ways, in every test case. Don't forget to print a new line after every test case.

Sample Input:	Sample Output:
1 3 2 5	3

Explanation:
There are 5 terms in the sequence. They are: 3, 5, 7, 9, and 11. For every length (from 1 to 5) of prefix we get the following sequence:

For L = 1, S = (3 % 1 = 0) = (0).
For L = 2, S = (3 % 2 = 1, 5 % 2 = 1) = (1, 1).
For L = 3, S = (3 % 3 = 0, 5 % 3 = 2, 7 % 3 = 1) = (0, 2, 1)
For L = 4, S = (3 % 4 = 3, 5 % 4 = 1, 7 % 4 = 3, 9 % 4 = 1) = (3, 1, 3, 1).
For L = 5, S = (3 % 5 = 3, 5 % 5 = 0, 7 % 5 = 2, 9 % 5 = 4, 11 % 5 = 1) = (3, 0, 2, 4, 1).

So for L = 1, 3 and 5 we get the desired output. So the answer is 3.