

Problem D. MOD

You are given multiple problems with three integers p , q , and n .

Find $\sum_{i=1}^n [(p - i) \bmod q]$. That is, the first n multiples of p , modulo q , summed.

Note that the overall sum has no modulus.

Input

Each input will begin with a line with a single integer W ($1 \leq W \leq 10^5$), which is the number of cases you must solve.

Each of the next W lines will contain three space-separated integers p , q and n ($1 \leq p, q, n \leq 10^6$), which are the parameters of the problem as described above.

Output

Output W lines, each with the answer for a given instance of the problem, in the order that they appear in the input.

Sample Input	Sample Output
3	6
2 7 2	7
1 4 5	37
3 8 10	