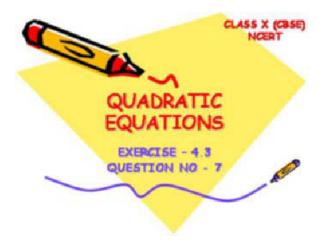
11934 Magic Formula

You are given a quadratic function, $f(n) = a \times 2 + b \times +c$. You are also given a divisor d and a limit L. How many of the function values $f(0), f(1), \ldots, f(L)$ are divisible by d?

Input

Input consists of a number of test cases. Each test case consists of a single line containing the numbers a b c d L $(-1000 \le a, b, c \le 1000, 1 < d < 1000000, 0 \le L < 1000).$

Input is terminated by a line containing '0 0 0 0 0' which should not be processed.



Output

Print the answer for each test case (the number of function values $f(0), f(1), \ldots, f(L)$ divisible by d) on a separate line.

Sample Input

0 0 10 5 100

0 0 10 6 100

1 2 3 4 5

1 2 3 3 5

0 0 0 0 0

Sample Output

101

0

0

4