

Problem B: Solve this Equation
Time Limit: 5 seconds

Description

Find number of solutions to the integer equation: $36 a^2 + 18 b^2 + 6 c^2 = 5 * N$, where N is a square (i.e., $N = n^2$ for some integer n), where a, b, c are integers.

Input

A number of of inputs (≤ 1000), each start with the number of value of integer N ($|N| < 1000000$).

Output

Output the number of solutions. Output **-1**, if there is an infinite number of solutions.

Sample Input

0
4

Sample Output

1
0