Project Euler #224: Almost right-angled triangles II

This problem is a programming version of Problem 224 from projecteuler.net

Let us call an integer sided triangle with sides $a \leq b \leq c$ *barely obtuse* if the sides satisfy $a^2 + b^2 = c^2 - 1$.

How many barely obtuse triangles are there with perimeter no greater than N ?

Input Format

First line of each test file contains a single integer Q that is the number of queries per test file. Q lines follow, each with a single integer N.

Constraints

- $1 \leq Q \leq 150$
- $15 \leq N \leq 15 \times 10^8$

Output Format

Print exactly Q lines with an answer for the corresponding query on each.

Sample Input 0

```
1
21
```

Sample Output 0

```
2
```

Explanation 0

The only barely obtuse triangles with perimeter no greater than 21 are $(2, 2, 3)$ and $(4, 8, 9)$; two total.