# Project Euler #94: Almost equilateral triangles



This problem is a programming version of Problem 94 from projecteuler.net

It is easily proved that no equilateral triangle exists with integral length sides and integral area. However, the *almost equilateral triangle* 5-5-6 has an area of 12 square units.

We shall define an *almost equilateral triangle* to be a triangle for which two sides are equal and the third differs by no more than one unit.

Find the sum of the perimeters of all *almost equilateral triangles* with integral side lengths and area and whose perimeters do not exceed N.

### **Input Format**

First line contains T, denoting the number of testcases. Next T lines contains N.

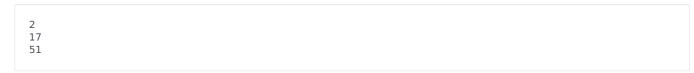
#### **Constraints**

$$2 \le T \le 10^5$$
  
 $15 \le N \le 10^{18}$ 

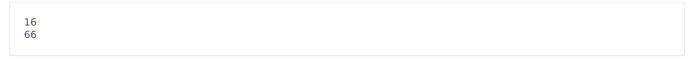
#### **Output Format**

Output T lines corresponding to T test cases.

# **Sample Input**



## **Sample Output**



# **Explanation**

For first test case we get perimeter 16 - (5 - 5 - 6). Second test case there is another triangle 16 - 17 - 17 whose area is 120 units.