Project Euler #195: Inscribed circles of triangles with one angle of 60 degrees



This problem is a programming version of Problem 195 from projecteuler.net

Let's call an integer sided triangle with exactly one angle of 60 degrees a 60-degree triangle.

Let r be the radius of the inscribed circle of such a 60-degree triangle.

There are 1234~60-degree triangles for which $r \leq 100$.

Let T(n) be the number of 60-degree triangles for which $r \leq n$, so T(100) = 1234, T(1000) = 22767, and T(10000) = 359912.

Find T(n) for some n.

Input Format

First line of each test file contains a single integer Q which is the number of queries in the file. Q lines follow with a single integer n_i on each.

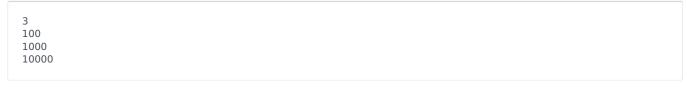
Constraints

- $1 \le Q \le 10$
- $1 < n_i < 10^9$
- ullet Sum of all n_i in a test file $\leq 10^9$

Output Format

Output exactly $m{Q}$ lines with a single integer on each. The integer of the i-th line should be the answer for the query with $m{n_i}$ as an input.

Sample Input 0



Sample Output 0

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1234
22767
359912
```