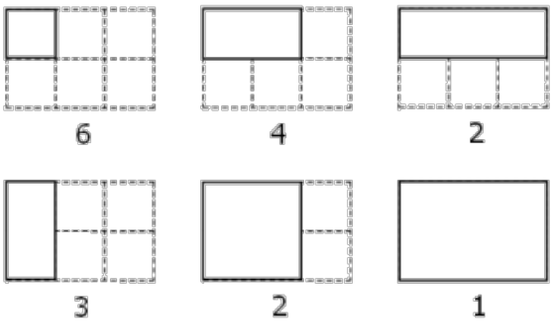
Project Euler #85: Counting rectangles

This problem is a programming version of Problem 85 from projecteuler.net

By counting carefully it can be seen that a rectangular grid measuring 3 by 2 contains eighteen rectangles:



For each testcase an integer *target* would be given . Consider all the rectangular grids such that the *number* of rectangles contained in the grid is *nearest* to *target* . Out of all such rectangular grids output the *area* of the rectangular grid having the *largest* area.

Input Format
First line contains T denoting the number of testcases.
The following T lines contain an integer $target$.

Constraints
$1 \le T \le 10^{4}$
$1 \le target \le 2\times 10^{6}$

Output Format
For each testcase print the area of the desired rectangular grid .

Sample Input

```
2
18
2
```

Sample Output

```
6
2
```

Explanation
Case1: A 3×2 grid contains 18 rectangles.

Case2:

$target$ is 2 . The grid 1×1 contains 1 rectangle and the grids 2×1 and 1×2 contain 3 rectangles each.

All other rectangular grids contain more than 3 rectangles.

Hence The set of grids containing the number of rectangles nearest to $target$ are 2×1 , $1 \times

2$, 1×1 .

Out of these 1×2 and 2×1 are the grids having the largest area equal to 2 .

Hence 2 is the answer as it is the largest area in the set of rectangular grids being considered.