## Counting Triangles

We define the LEVEL of a triangle as in the following illustrative image:


LEVEL 1


LEVEL 2


## LEVEL 4

Task: Your task is very easy. All you have to do is to count all triangles in the biggest one (Level N).

## Input

The first line of the input contains an integer $T(T \leq 10000)$ - the number of test cases and $T$ lines follow. Each line contains an integer $N\left(1 \leq N \leq 10^{6}\right)$ which is the level of the triangle in that test case.

## Output

For each test case, you should write a seperate line: the number of triangles in the biggest one (Level N). (All answers will fit within the range of a 64-bit integer)

## Example

Input:
3
1
2
3

## Output:

1
5
13
Source limit is $\mathbf{5 0 0}$ bytes.

