# Problem CARDHOUSE: Full House Of Cards

Like each time after the ICPC, you and all the other contestants meet at a bar drinking beer and sometimes playing cards. During a long tournament, they try to find the *Awful Card Master* (ACM). The only thing that changes each time is the card game to be played (e.g. Black Jack or Poker). But no matter which game is picked, the result always depends on randomness. Everyone in the bar agrees that an important title like the *Awful Card Master* should not depend on luck! So they determine another tactic: the target is to build a full house of cards.

1. You can lean two cards against each other in some up-side-down V shape: /\

2. You can connect two of those V shapes with a card, laid horizontally on top: /\/\

3. Each horizontal card from rule 2 must be covered with another V shape from rule 1.

The contestant with the tallest house wins. For example, Alice builds a house of height 1 (a), Bob of height 2 (b) and so on (c) and so on (d).

(a) 1 floor   (b) 2 floors   (c) 3 floors   (d) 4 floors
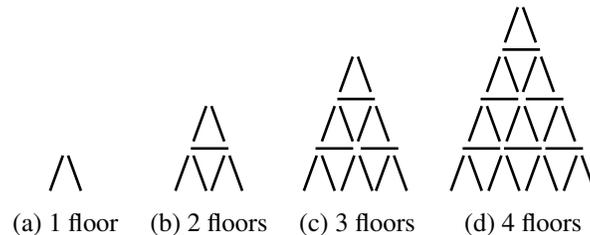
To win the contest, you want to build the tallest house. Given h, how many cards do you need to build a house with h floors?

Input

The only integer on the first line denotes the number of test cases $1 \le T \le 1\,000$. Each of the following T lines describes one test case. The input per test case is a single integer $1 \le h \le 10^9$, describing the height the house should have.

Output

Print one line per test case, containing the number of cards that are needed to build a house of the specified height. You may assume the result fits in the range of a 64 bit signed integer.

Sample Input 1
```
10
1
2
3
4
10
423
900000000
800000000
700000000
987654321
```

Sample Output 1
```
2
7
15
26
155
268605
1215000000450000000
960000000400000000
735000000350000000
1463191587178783722
```