Juanma is a very friendly guy who is worried about the wellness of his classmate. Given the increasing heat wave he decided to put n drinking fountains across the campus so his classmates won't be thirsty all the day.

The campus have circular shape, with a big wall surrounding. To avoid hits, the drinking fountains will be place next to the wall, in the border of the campus.

Juanma is a curious guy and he wants to know what is the largest number of regions that he can create if he join all the drinking fountains with straight lines, can you help him?
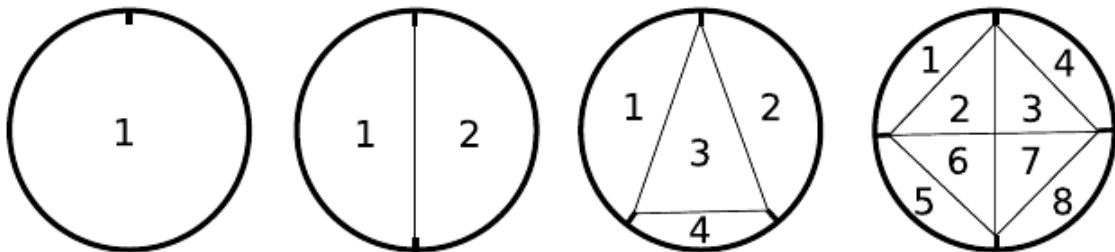
Campus with 4 drinking fountains and the resulting regions numbered.

Input

Input begins with an integer t, the number of test cases, followed by t lines, each line contains an integer n $(1 \le n \le 200)$ that represents the number of drinking fountains that Juanma has placed.

Output

For each test case print a line with the largest number of regions that can be created.

Sample Input

```
6
1
2
3
4
5
6
```

Sample Output

```
1
2
4
8
16
31
```