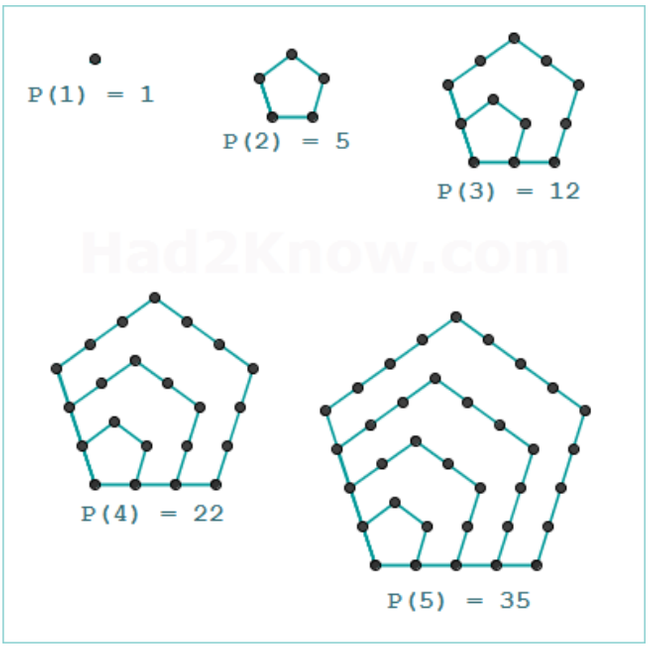
Pentagonal Numbers

Pentagonal numbers are the number of dots that can be shown in a pentagonal pattern of dots. Let's represent the n^{th} pentagonal number by *P(n)*. The following figure depicts pentagonal patterns for $n \in \{1, 2, 3, 4, 5\}$.



Your task is to find the value of *P(n)* for a given *n*.

Input

The first line will contain an integer *T*, which represents the number of test cases. Then *T* lines, each representing a single test case, follow. Each test case contains an integer *n*.

Output

For each test case, print the n^{th} pentagonal number, *P(n)*, in separate line.

Constraints

$1 <= T <= 10^5$

$1 <= n <= 10^5$

Sample Input

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

Sample Output

```
1
5
12
22
35
```

Explanation

Above image contains the pentagonal pattern for all *n*'s.