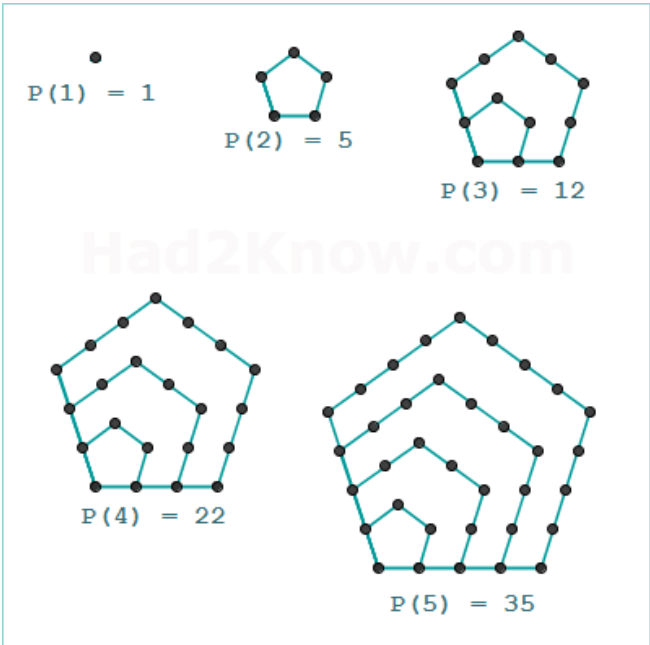


Pentagonal Numbers

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

- $1 \leq T \leq 10^5$
- $1 \leq n \leq 10^5$

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.

