Project Euler #6: Sum square difference

This problem is a programming version of Problem 6 from projecteuler.net

The sum of the squares of the first ten natural numbers is, $1^{2} + 2^{2} + ... + 10^{2} = 385$. The square of the sum of the first ten natural numbers is, $(1 + 2 + \cdots + 10)^{2} = 55^{2} = 3025$. Hence the difference between the sum of the squares of the first ten natural numbers and the square of the sum is $3025 − 385 = 2640$.

Find the difference between the sum of the squares of the first N natural numbers and the square of the sum.

Input Format
First line contains T that denotes the number of test cases. This is followed by T lines, each containing an integer, N.

Output Format
Print the required answer for each test case.

Constraints
$1 \le T \le 10^4$
$1 \le N \le 10^4$

Sample Input

```
2
3
10
```

Sample Output

```
22
2640
```