Project Euler #28: Number spiral diagonals

Problem Statement

This problem is a programming version of Problem 28 from projecteuler.net

Starting with the number 1 and moving to the right in a clockwise direction a 5 by 5 spiral is formed as follows:

$$\begin{array}{ccccc} \mathbf{21} & 22 & 23 & 24 & \mathbf{25} \\ 20 & \mathbf{7} & 8 & \mathbf{9} & 10 \\ 19 & 6 & \mathbf{1} & 2 & 11 \\ 18 & \mathbf{5} & 4 & \mathbf{3} & 12 \\ \mathbf{17} & 16 & 15 & 14 & \mathbf{13} \end{array}$$

It can be verified that the sum of the numbers on the diagonals is 101.
What is the sum of the numbers on the diagonals in a $N \times N$, (N is odd) spiral formed in the same way?
As the sum will be huge you have to print the result mod $(10^9 + 7)$

Input Format

The first line contains an integer T , i.e., number of test cases.
Next T lines will contain an integer N.

Output Format

Print the values corresponding to each test case.

Constraints

$1 \leq T \leq 10^5$
$1 \leq N < 10^{18}, \text{N is odd}$

Sample Input

```
2
3
5
```

Sample Output

```
25
101
```