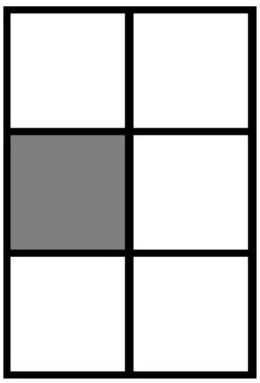
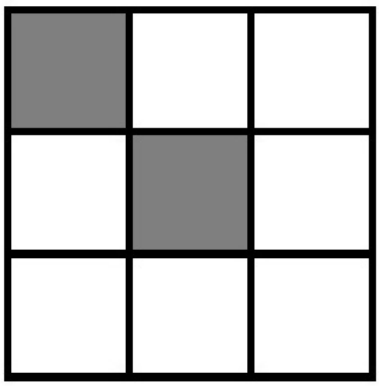
Problem B: The Maze

It's time for you to place walls in your favourite $3xN$ grid (don't tell me that you don't have a favourite $3xN$ grid!). After placing the walls, you then mark your favourite two points on the grid, and calculate the length of the shortest path between these points. Supposing that you place the walls and choose the grid points in such a way as to **maximize** the length of this path, what is this maximum length?

Here are two diagrams for you to peruse - one of the optimal solutions for each of $N = 2$ and $N = 3$.





In the first diagram your favourite squares will be the top and bottom cells in the leftmost column. The shortest path between these two points is 4. In the second diagram, your favourite squares will be the top-centre and centre-left squares. These shortest path between these two squares is 6.

Input Specification:

The input begins with an integer T, the number of test cases. Each test case consists of a positive integer $N \leq 420$, the number of columns in the $3xN$ grid.

Output Specification:

For each test case output a single number - the length of the longest simple path possible on a $3xN$ grid.

Sample Input:

```
2
2
3
```

Sample Output:

```
4
6
```