

11467 Pythagorean Triangles

Many lattice triangles are formed in an $(N \times N)$ grid, but not all of them are Pythagorean (Right angled) triangles. Given the value of N your job is to write a program that produces the number of lattice triangles in an $(N \times N)$ grid. A lattice triangle is triangle whose three vertices are lattice points. A lattice point in two dimensional Cartesian coordinate system is a point whose abscissa and ordinate are integers.

Input

The input file contains at most 15 lines of inputs. Each line contains an integer N ($0 < N < 2001$). Input is terminated by a line containing a single zero. This line should not be processed.

Output

For each value of N produce one line of output which contains an integer T . Here T denotes the total number of right angled triangles in that $(N \times N)$ grid.

Sample Input

```
10
20
30
0
```

Sample Output

```
23596
418716
2288304
```