12 Days of ChrisMATH — Day 8

Each **Zukei Geometric Puzzle** uses a set of dots placed on a grid. The purpose of the puzzle is to select a subset of these dots to form the vertices of the specific polygon named. All vertices of the polygon should be at a dot, and no edge may cross another.
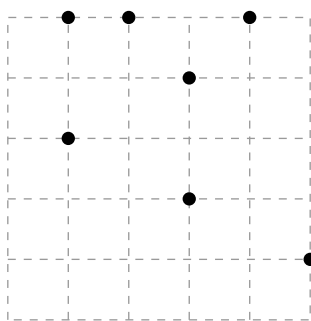
In some puzzles, we may find more than 1 set of points.

Any dots that are not used as vertices are *distractor points*. The distractor points may or may not be on the sides of the geometric shape.

For this puzzle, submit the sum of the number of possible shapes and the number of distractor points that do not lie on the perimeter of any identified shape.
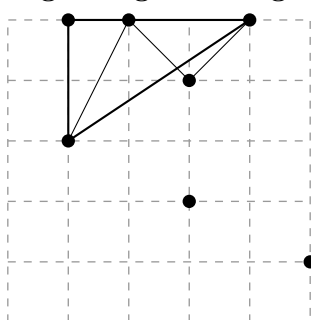
For example, the puzzle

Right-Angled Triangle

has the solution

Right-Angled Triangle

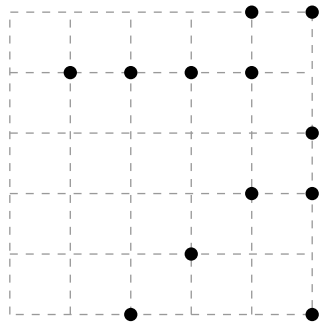In this case, we can construct 3 right-angled triangles (one is harder to see).

There are 2 distractor points that are not on any of the sides of the triangle.

Therefore, the answer you submit is $3 + 2 = 5$.

What is the sum of the number of possible shapes and the number of distractor points that do not lie on the perimeter of any identified shape?
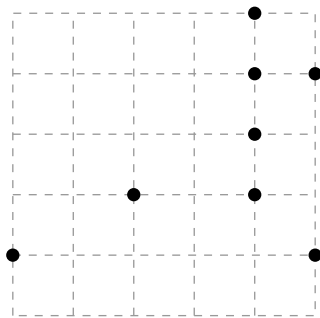
Level 1

Rectangle

Level 2

Parallelogram

Level 3

Parallelogram