

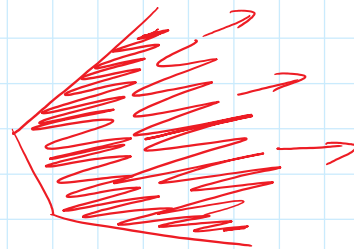
POLYGONS:

A polygon is the closed region of the plane bounded by a finite collection of line segments that form a closed curve that does not intersect itself.

Polygons:

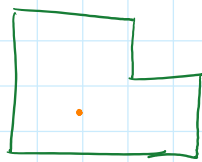


Not Polygons:

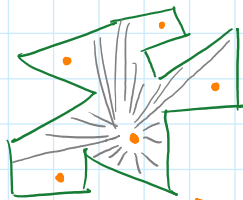


Art Gallery Problem: Suppose an art gallery has a floor plan modeled by a polygon. A guard occupies a single point and can see in straight lines in all directions, to the gallery walls.

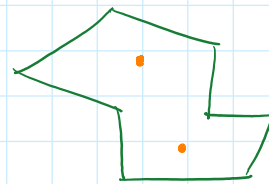
e.g.



1 guard sees everything



5 guards?



2 guards?

If the polygon has n sides, what is the smallest number of guards that can protect the entire gallery?