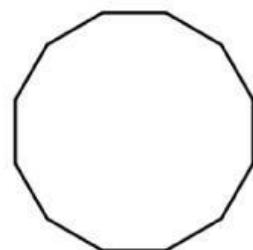
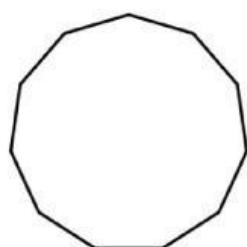
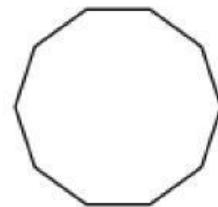
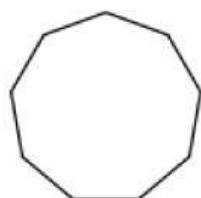
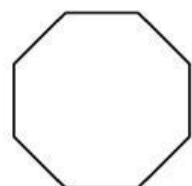
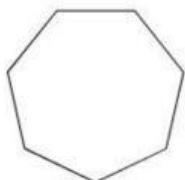
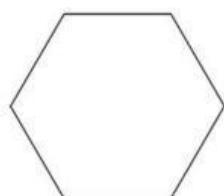
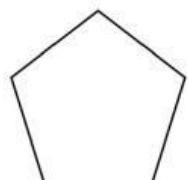
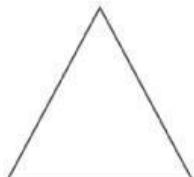


Polygon Worksheet

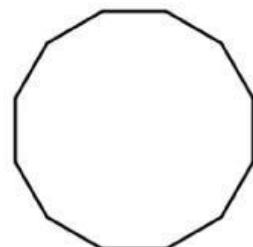
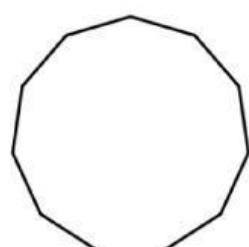
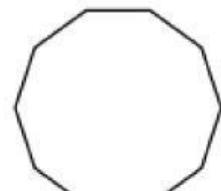
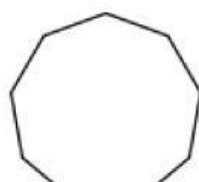
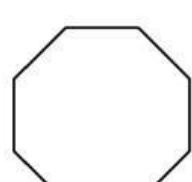
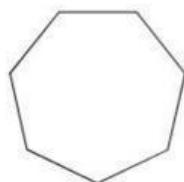
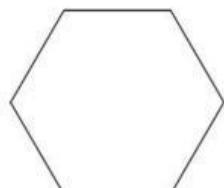
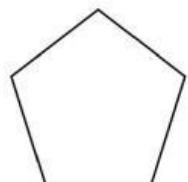
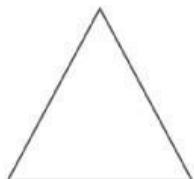
For each shape below: 1) Determine the number of *diagonals* (*should create star design*)
2) Determine each shape's *proper name*



L15.1 Polygons, Diagonals, and Angle Sums

Date: _____

For each shape below: 1) Determine the number of *triangles* (*triangles should not overlap*)
2) Find the *sum of the interior angles*



L15.1 Polygons, Diagonals, and Angle Sums

Date: _____

I. Polygon worksheet

1. To the right of each figure, write its proper name.
2. Pick a vertex and then draw the diagonals to all non-consecutive vertices.

II. Chart

1. Fill in the chart below:

Name of polygon	# of sides	# of diagonals	# of triangles	Sum of angles
Triangle				
Quadrilateral				
Pentagon				
Hexagon				
Heptagon				
Octagon				
Nonagon				
Decagon				
Hendecagon				
Dodecagon				
N-gon (any number of sides – generalization)				

Formula: Number of diagonals that can be drawn in a polygon.	
Formula: Sum of the interior angles of any polygon.	

Practice

- Given: a pentadecagon.
 - Find the number of diagonals:
 - Find the sum of the interior angles:
- What is the name of a polygon if the sum of the measures of its inner angles is 1080?
- If a polygon has 35 diagonals, what is the name of the polygon?
- How many sides does a polygon have if the sum of the measures of its angles is 1440?