Level 1 Geometry Received:

Name:_____ Block:

Polygons

A **Polygon** is a series of points connected in order to enclose a region.

A segment between consecutive points of a polygon is called a **side**.

A segment connecting two non-consecutive point of a polygon is called a **diagonal.**

A polygon with all equal side and all equal angles is called a **regular polygon.**

1. Draw pentagon ABCDE and draw all possible diagonals, how many are there?

2. Draw hexagon ABCDEF and draw all possible diagonals, How many are there?

3. How you can get the number of diagonals based on the number of sides?

4. How many diagonals from a single point can be drawn in an n-gon? (a polygon with n sides)

5. Using #4 how many triangles can you make out of a pentagon, a hexagon and n-gon?

6. What is the sum of the angle in a pentagon, hexagon, n-gon?

7. What is the measure of each angle in a regular pentagon, hexagon, n-gon?

8. What is the measure of each external angle in a regular pentagon, hexagon, n-gon?

9. What is the sum of all the external angles in a regular pentagon, hexagon, n-gon?

10. In #9 does it matter if the polygons are regular? Why or why not?