**Similar Polygons**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Block: \_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

**Introduction:**  In the previous session, we learned about “similar triangles” and we found that two triangles are similar if…

1. Their corresponding angles are equal

***OR***

1. If all the triangles corresponding sides are reduced or enlarged by the same scale factor.

Today we will learn about polygons and how to identify similar polygons.

**What are polygons**? A 2-D closed figure made of three or more line segments. (*poly = many*)

The followings are examples of polygons.

**Warm-up:** from the following polygons, which one looks similar to the rectangle on the far left? Why?

 4cm 8 cm 8 cm

2cm 4 cm 4 cm

**Discovery:** What conditions do you think are necessary in order for two *POLYGONS* to be *SIMILAR*?

**Key Ideas:**

Polygons are similar if ***BOTH*** of these conditions hold true:

1. Corresponding angles *are equal* in measure
2. Corresponding side lengths are *proportional*

*Please note that we need both conditions above to prove that two polygons are similar whereas for triangles we needed only one.*

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**Example 1**: Use the information in each diagram to determine which pairs of polygons are similar.

**Example 2**: Find the missing sides: (Hint: use three proportions)

