# Math 7 Name

# Class Notes Date

***Exploring Similar Figures***

**Similar Figures** – Polygons that have the same shape, but different size.

**Corresponding** – Having the same position.

**Two polygons are similar if:**

1. corresponding angles are congruent **AND**
2. the lengths of corresponding sides are in proportion, called the **scale factor**.

## **Show if the triangles below are similar or not.**



When two polygons are similar, we can write a similarity statement using the symbol “~”.

1. Are the following rectangles similar?



# 2. Are the following triangles similar?



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**Use the triangles below to answer the following questions.**

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1. Which angle corresponds to ?

2. Which angle corresponds to ?

3. Which angle corresponds to ?

4. Does each angle and its corresponding angle have the same measurement, Yes or NO?

5. Which side corresponds to ?

6. Which side corresponds to ?

7. Which side corresponds to ?

8. What is the ratio of side  length to the length of it corresponding side?

9. What is the ratio of side  length to the length of it corresponding side?

10. What is the ratio of side  length to the length of it corresponding side?

11. What are the ratios equal to in lowest terms?

12. Are all three ratios equal, Yes or NO?

13. What is the scale factor of to ?

**Tell if the figures are similar. If they are, write a similarity statement using the symbol for similar,** ~**, and give the scale factor from the smaller polygon to the larger one. If they are not similar, explain why.**

14.



15.



16.



17. Suppose  If   and  then

  and 