7.3 ~ Similar Polygons

Polygons: _____________________________________________

Similar Polygons: ______________________________________

Proportional: __________________________________________

Corresponding Angles: __________________________________

Corresponding Sides: ____________________________________

Corresponding Lengths: _____________________________

The example below shows the corresponding sides and angles for the given polygons:

Notice in the example that the corresponding sides are all scale factors (1.5) of one another, and the corresponding angles have the exact same value.
Properties of Similar Polygons:
Two polygons are similar when:
- corresponding (matching) sides are proportional AND
- corresponding (matching) angles are equal.

Example #1: Are the following quadrilaterals similar? How do you know?

Example #2: Are the following rectangles similar?
Example #3: These two quadrilaterals are similar. Find the value of JM.

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Practice

1. Are these quadrilaterals similar? Show all work.
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```plaintext
Practice

1. Are these quadrilaterals similar? Show all work.
```
2. Are any of these rectangles similar? Show all work.

3. These polygons are similar. Find the length of UV. Show all work.
Lesson 7.3 Similar Polygons

1. Which rectangles are similar? Give reasons for your answer.

[Diagram of rectangles A, B, and C with measurements 2.7 cm, 4.5 cm, 2.7 cm, 1.5 cm, 1.8 cm, 0.9 cm]

2. For the given polygon draw a similar larger polygon and a similar smaller polygon. Write the scale factor for each diagram.

[Diagram of a quadrilateral]

3. These polygons are similar. Determine each length.
   a) PT
   b) BC

[Diagram of a quadrilateral and a triangle]

4. Which statements are true? Justify your answers.
   a) All regular octagons are similar.
   b) All quadrilaterals are similar.
   c) All circles are similar.
   d) All pentagons are similar.