Identifying Similar Figures & Solving For Missing Measurements

Recall for polygons to be similar they must meet the following criteria:

1. Corresponding angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Corresponding sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* IMPORTANT \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

If two angles of one triangle are congruent to two angles of another triangle,

then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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| **Use what you know about similar figures to identify which figures below are similar. Explain your thinking.** |
| 1.881010 | 2. **8****Q** **6****5****D****S****R****12****B****A****P****C** |
| 3. 70653030 | 4. **Q****3** **1.5****D****S****R****7.5****B****A****P****C****15** |
| 5. Ann’s rectangular room is 10 ft by 12 ft 6 in. She draws a rectangular sketch of her room 8 in by 10 in. Is Ann’s sketch similar to her actual room? |
| 6. The school’s rectangular football field is 20 ft by 50 ft. If we draw a rectangular sketch of the field 4 in by 10 in. Is the sketch similar to the actual field? |

Knowing the following figures are similar, use proportional reasoning to find the missing measurement.

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| Example: Rectangles ABCD and PQRS are similar. Find x. 1) Set up a proportion 🡪2) Substitute in values 🡪3) Cross multiply 🡪4) Solve the equation 🡪**8****B****A****Q****R****12****x****6****P****S****C****D** |

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The following figures are similar. Solve for the designated side.

1)

2)

**6**

**q**

**4**

**5**

**5**

**8**

**3**

**y**

Each figure shows a pair of similar triangles. Find each unknown length.

4)

3)

 35 35 10.2

m

x

3.4

1.6

y

21

3

n

48

p

Centimeter graph paper