**ML #3: Similar Figures & Scale Drawings (Proportional Relationships– Math 7+)**

**Vocabulary:** scale factor Similar Figures corresponding angles

Corresponding sides Congruent



**Corresponding Sides and Angles Section** The symbol means “congruent to”

**A**

**B**

**C**

**15**

**9**

**12**

**D**

**5**

**E**

**3**

**4**

**F**

**12 4**

**CORRESPONDING SIDES CORRESPONDING ANGLES**

**and**

**\_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_**

**\_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_**



**Similar Figures Part II Section**

Two figures are similar if…

* + Corresponding angles all have the same measure.
  + The ratios of the lengths of corresponding sides are proportional.

Would the following rectangles be similar? Why or why not?

1) 4 in by 12 in **and** 12 in by 24 in 2) 6 in by 2 in **and** 3 in by 1 in

3) Compare the sides below and prove or disprove if these triangles are similar using the side relationships.

15 cm

5 cm

2 cm

6 cm

8 cm

20 cm

4) Find the missing side length using a proportion.

x in

13 in

21 in

26 in

**Shadow/Mirror Method Section**

1. Assume a street sign is 8 ft tall and casts a shadow 22 ft long. A nearby tree casts a shadow 58 ft. How tall is the tree? (label the drawing below with the dimensions)

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x

58 ft

8 ft

22 ft

1. Mirror Method: How tall is the building?



6 ft

14 ft

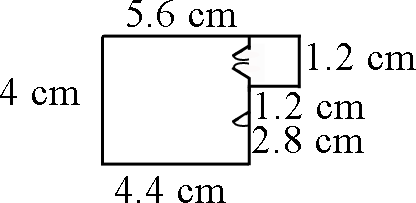
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5.5 ft

mirror

**Scale Drawings**

1) Julie shows the scale drawing of her room below. If each 2 cm on the scale drawing equals 5 ft, what are the actual dimensions of Julie’s room?



2) Mariko has an 80:1 scale-drawing of the floor plan of her house. On the floor plan the dimensions of her rectangular living room are inches by inches. What is the area of her real living room in square feet?

**Practice for ML #3 Similar Figures and Scale Drawings (Math 7+)**

**Use proportions to find missing lengths of similar figures:**

1. **2)**

12 yd

17.5 yd

28.8 yd

x yd

4.5 cm

x cm

3 cm

11 cm

21 yd

X yd

**3)**

1. Imagine you are 6.5 feet tall and your younger sibling is 4.5 feet tall. Your sibling casts a shadow 21 feet long. How long would you cast a shadow?

4.2 yd

9.2 yd

5) A scale drawing of a room has a 1 cm: 3 m scale. If the window is 3 cm from the door in the model, what is the actual distance between the window and the door?

1. A scale on a map reads, 1 in: 40 miles. If the distance on a map from Raleigh to Greensboro is 1 ¾ inches, how far will you drive?