**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**

$\overbar{AB}$ **and** $\overbar{DE}$$∠ABC$$≅$$∠DEF$

**\_\_\_\_\_** $and $ **\_\_\_\_\_ \_\_\_\_\_** $≅$ **\_\_\_\_\_**

**\_\_\_\_\_** $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?

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6 ft

14 ft

![C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files\Content.IE5\G3BK4TCE\MC900445118[1].wmf]()

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 $1\frac{7}{8}$ inches by $2\frac{1}{2}$ 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?