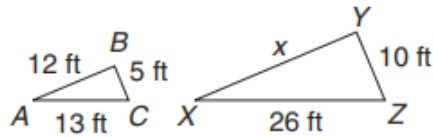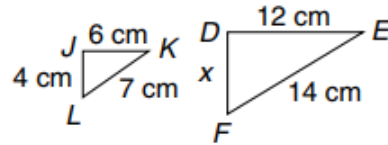Name _____ Date _____ Class _____

Practice A
Using Similar Figures

For each pair of similar figures write a proportion containing the unknown length. Then solve.
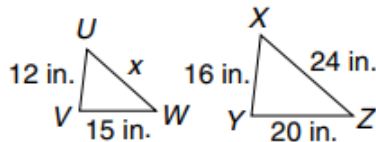
1.

12 ft *B* 5 ft *Y* *x* 10 ft
A 13 ft *C* *X* 26 ft *Z*

2.

J 6 cm *K* 12 cm *E*
4 cm 7 cm *x* 14 cm
L *D* *F*

_____

3.

U *X*
12 in. *x* 16 in. 24 in.
V 15 in. *W* *Y* 20 in. *Z*

4.

G
15 m 18 m *T*
10 m 12 m
H *x* *J* *S* 6 m *R*

_____
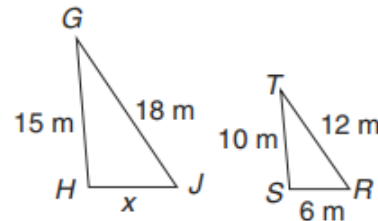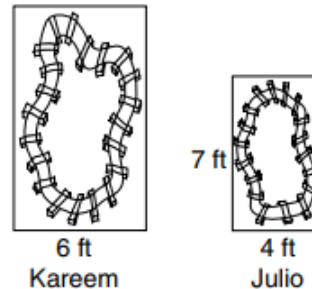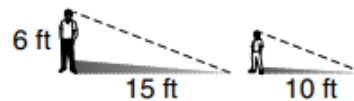
5. Kareem and Julio have rectangular
model train layouts that are similar to
each other. Julio's layout is 4 feet by
7 feet. Kareem's layout is 6 feet
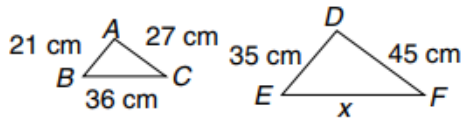wide. What is the length of Kareem's
layout?

_____

7 ft
6 ft   4 ft
Kareem   Julio

6. A 6-foot-tall adult casts a shadow
that is 15 feet long. Estimate the
height of a child who casts a 10-foot
shadow.
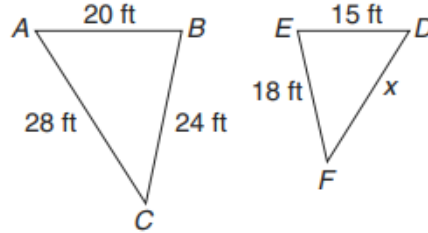
_____

6 ft
15 ft   10 ft

Name _____ Date _____ Class _____

△ABC ~ △DEF in each pair. Find the unknown lengths.

1.

21 cm A 27 cm   35 cm D 45 cm
  B ———— C   E ———— F
   36 cm   x

_____

2.

A —— 20 ft —— B   E —— 15 ft —— D
28 ft   24 ft   18 ft   x
      C   F

_____

3.

B
7.5 m
  6 m   E
A —— C   x   4 m
  3 m   D 2 m F

_____

4.

A   D
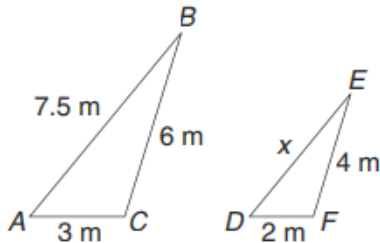8 in. 10 in.   15 in.   x
B —— C   F —— E
  6 in.   9 in.

_____
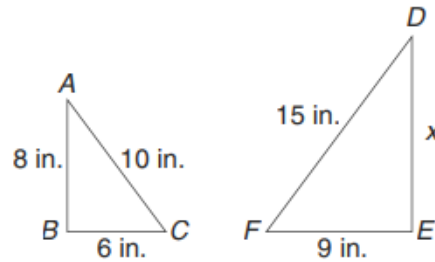
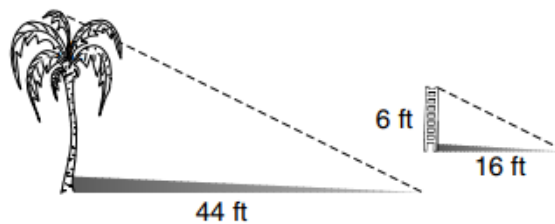**5.** The two rectangular picture frames at the right are similar. What is the height of the larger picture frame?

_____

2 ft
├— 3 ft —┤

?
├— 4.2 ft —┤
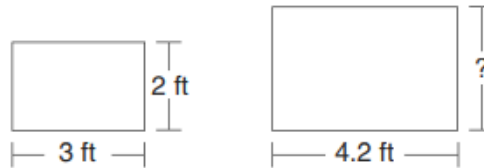
6. A palm tree casts a shadow that is 44 feet long. A 6-foot ladder casts a shadow that is 16 feet long. Use Estimate the height of the palm tree.

_____

6 ft
16 ft
44 ft

Name _____ Date _____ Class _____

Write the correct answer.

1. An architect is building a model of a tennis court for a new client. On the model, the court is 6 inches wide and 13 inches long. An official tennis court is 36 feet wide. What is the length of a tennis court?

   _____

2. Mr. Hemley stands next to the Illinois Centennial Monument at Logan Square in Chicago and casts a shadow that is 18 feet long. The shadow of the monument is 204 feet long. If Mr. Hemley is 6 feet tall, how tall is the monument?

   _____

3. The official size of a basketball court in the NBA is 94 feet by 50 feet. The basketball court in the school gym is 47 feet long. How wide must it be to be similar to an NBA court?

   _____

4. Two rectangular desks are similar. The larger one is 42 inches long and 18 inches wide. The smaller one is 35 inches long. What is the width of the smaller desk?

   _____

Choose the letter for the best answer.

5. An isosceles triangle has two sides that are equal in length. Isosceles triangle *ABC* is similar to isosceles triangle *XYZ*. What proportion would you use to find the length of the third side of triangle *XYZ*?

   A $\dfrac{BC}{XZ} = \dfrac{AB}{XY}$

   B $\dfrac{AC}{XY} = \dfrac{BC}{XZ}$

   C $\dfrac{AB}{XY} = \dfrac{AC}{XZ}$

   D $\dfrac{AB}{XY} = \dfrac{BC}{YZ}$

6. The dining room at Monticello, Thomas Jefferson's home in Virginia, is 216 inches by 222 inches. Of the following, which size rug would be similar in shape to the dining room?

   F 72 inches by 74 inches

   G 108 inches by 110 inches

   H 118 inches by 111 inches

   J 84 inches by 96 inches

7. A 9-foot street sign casts a 12-foot shadow. The lamppost next to it casts a 24-foot shadow. How tall is the lamppost?

   A 24 feet

   B 15 feet

   C 18 feet

   D 36 feet