

Directions: Solve for x.

1)  $\frac{3}{x} = \frac{7}{14}$

2)  $\frac{7}{x-4} = \frac{3}{5}$

3)  $\frac{4}{x} = \frac{x}{16}$

$x = 6$

$x = \frac{47}{3}$  or 15.67

$x = \pm 8$

Directions: Solve for each problem.

- 4) Given two squares with sides 5 and 7, what is the ratio of their perimeters?

- 5) Given two squares with sides 5 and 7, what is the ratio of their areas?

$5:7$

$25:49$

- 6) Given two equilateral triangles with sides 6 & 10, what is the ratio of their perimeters?

- 7) Given two equilateral triangles with sides 6 & 10, what is the ratio of their areas?

$3:5$

$15.59:21.65$

- 8) A 60 meter pole is cut into two parts in the ratio of 11 to 4. How much longer is the longer part than the shorter?

$28m$

- 9) The ratio of the measures of a quadrilateral is 2:3:5:7. If the figure's perimeter is 68, what is the length of each side?

$8, 12, 20, 28$

- 10) The length of a model plane is
- $10\frac{1}{2}$
- in. The scale of the model is 1:72. What is the length of the real plane?

$756 \text{ in}$



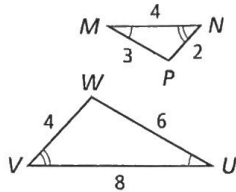
### GUIDED PRACTICE

1. **Vocabulary** Give an example of similar figures in your classroom.

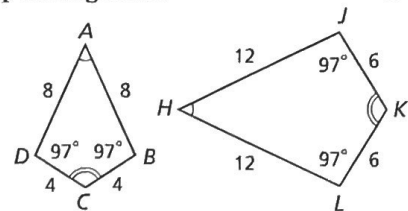
SEE EXAMPLE 1

Identify the pairs of congruent angles and corresponding sides.

2)  $\angle M \cong \angle U$ ;  $\angle N \cong \angle V$   
 $\angle P \cong \angle W$   
 $\frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{1}{2}$   
 (S) (m) (L)



3.



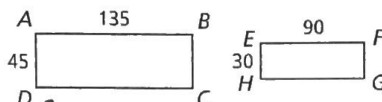
3)  $\angle J \cong \angle D$ ;  $\angle L \cong \angle B$   
 $\angle H \cong \angle K$ ;  $\angle K \cong \angle C$

$\frac{4}{8} = \frac{6}{12} = \frac{6}{12} = \frac{4}{8}$   
 $\frac{2}{3}$

SEE EXAMPLE 2

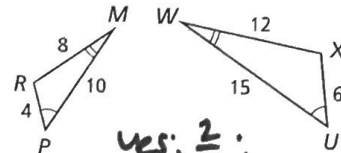
**Multi-Step** Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement.

4. rectangles  $ABCD$  and  $EFGH$



Yes;  $\frac{3}{2}$   $ABCD \sim EFGH$

5.  $\triangle RMP$  and  $\triangle UWX$



Yes;  $\frac{2}{3}$

$\triangle RMP \sim \triangle UWX$

SEE EXAMPLE 3

6. **Art** The town of Goodland, Kansas, claims that it has one of the world's largest easels. It holds an enlargement of a van Gogh painting that is 24 ft wide. The original painting is 58 cm wide and 73 cm tall. If the reproduction is similar to the original, what is the height of the reproduction to the nearest foot? **30 ft**



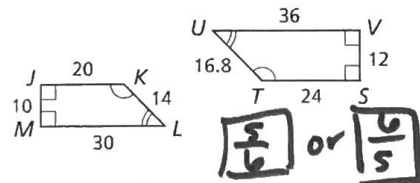
### PRACTICE AND PROBLEM SOLVING

Identify the pairs of congruent angles and corresponding sides.

#### Independent Practice

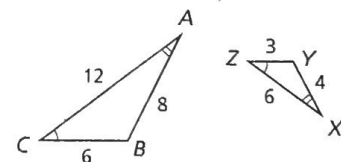
For Exercises	See Example
7-8	1
9-10	2
11	3

7.



$\frac{3}{2}$  or  $\frac{6}{5}$

8.



$\frac{2}{3}$  or  $\frac{1}{2}$

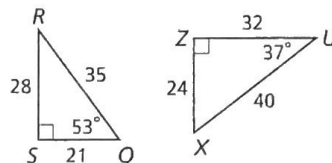
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Online Extra Practice

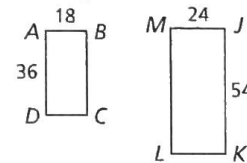
**Multi-Step** Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement.

9.  $\triangle RSQ$  and  $\triangle UXZ$



Yes;  $\frac{7}{8}$ ;  $\triangle RSQ \sim \triangle UXZ$

10. rectangles  $ABCD$  and  $JKLM$



No