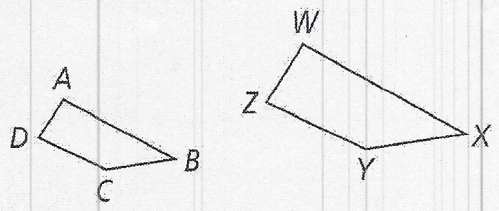
Name _____ Hour _____

7-2 Similar Polygons
Worksheet Day 2

List the pairs of congruent angles and the extended proportion that relates the corresponding sides for the similar polygons.

1. $ABCD \sim WXYZ$

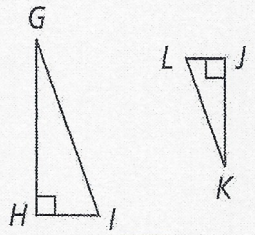


$\angle A \cong \angle W$ $\angle B \cong \square$

$\angle C \cong \square$ $\angle D \cong \square$

$$\frac{AB}{WX} = \frac{BC}{XY} = \frac{\square}{\square} = \frac{\square}{\square}$$

2. $\triangle GHI \sim \triangle KJL$



$\angle G \cong \square$ $\angle H \cong \square$

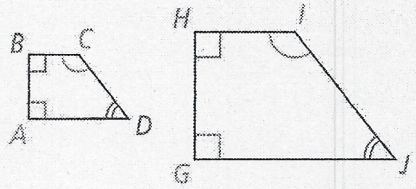
$\angle I \cong \square$

$$\frac{GH}{KJ} = \frac{\square}{\square} = \frac{\square}{\square}$$

3.

$ABCD \sim GHIJ$. **Draw a line from each angle in Column A to its corresponding angle in Column B.**

Column A	Column B
$\angle A$	$\angle H$
$\angle B$	$\angle J$
$\angle C$	$\angle G$
$\angle D$	$\angle I$



4.

Complete the extended proportion to show that corresponding sides of $ABCD$ and $GHIJ$ are proportional.

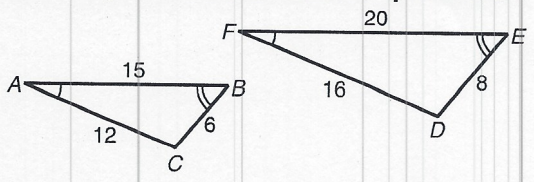
$$\frac{AB}{GH} = \frac{BC}{\square} = \frac{\square}{IJ} = \frac{AD}{\square}$$

Fill in the blanks.

5. Two polygons are similar if and only if their corresponding angles are _____ and their corresponding sides are _____.

6. Figures that are similar have the same shape, but not necessarily the same _____.

Use the figure below to answer questions 7 & 8.



7.

Name the pairs of congruent angles.

$\angle A \cong$ _____

$\angle B \cong$ _____

$\angle C \cong$ _____

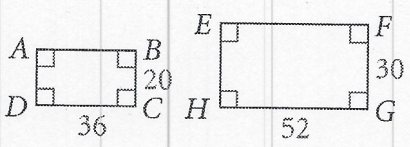
8.

Write the corresponding side lengths in the proportion below.

$\frac{AB}{\quad} = \frac{\quad}{DE} = \frac{\quad}{FD}$

Are the polygons below similar? If so, write the similarity ratio.

9.



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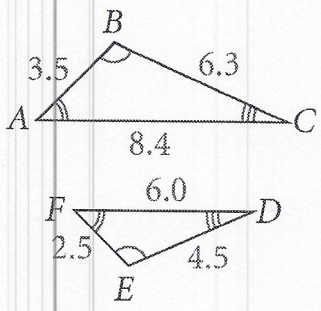

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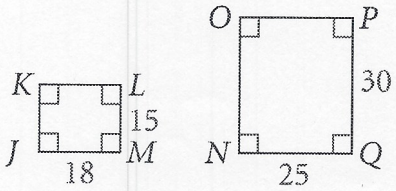
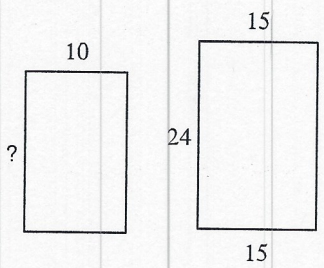


The polygons are similar. Find the missing side length.

12.



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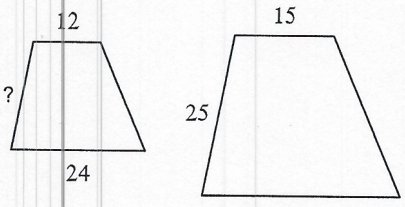

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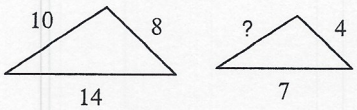

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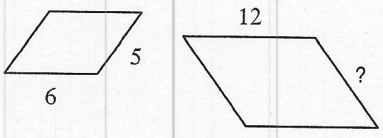

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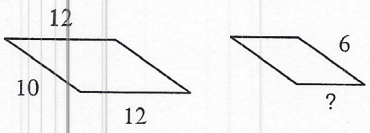

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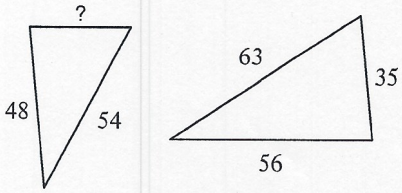
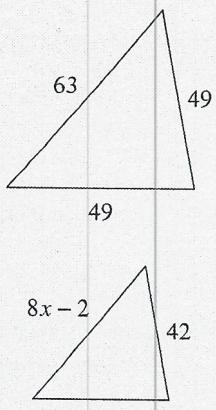


Find the value of x. The polygons are similar.

18.



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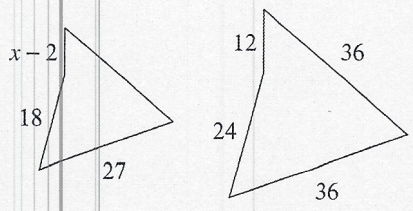

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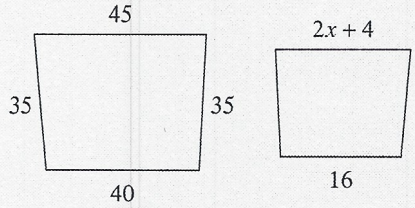

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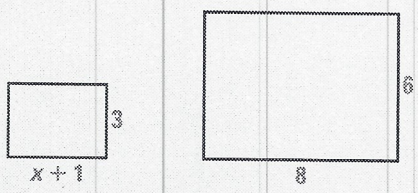

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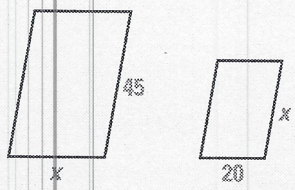

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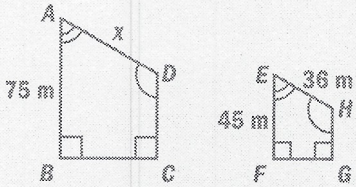

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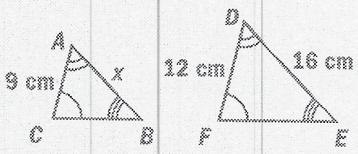

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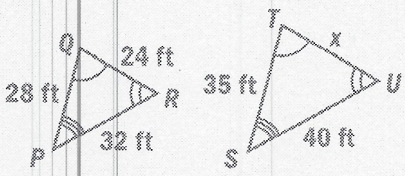

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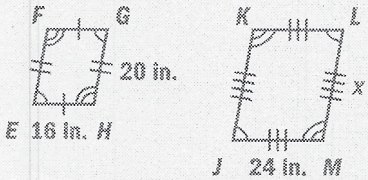

Review Cross Multiplying. Solve for the variable.

27.

$$\frac{x}{2} = \frac{8}{4}$$

28.

$$\frac{5}{x} = \frac{8}{11}$$

29.

$$\frac{5}{6} = \frac{6}{x}$$

30.

$$\frac{x + 3}{3} = \frac{10 + 4}{4}$$

31.

$$\frac{x + 7}{7} = \frac{15}{5}$$

32.

$$\frac{3}{5} = \frac{6}{x + 3}$$

33.

$$\frac{8}{n + 4} = \frac{4}{n}$$

34.

$$\frac{2b - 1}{5} = \frac{b}{12}$$

35.

$$\frac{3y - 5}{y} = \frac{12}{5}$$