Name:_____Per:_____

Chapter 7 Similarity Review Handout

Cross-Product Property (p. 367)	**golden rectangle** (p. 375)	**scale** (p. 368)
extended proportion (p. 367)	**indirect measurement** (p. 384)	**scale drawing** (p. 368)
geometric mean (p. 392)	**proportion** (p. 367)	**similar** (p. 373)
golden ratio (p. 375)	**ratio** (p. 366)	**similarity ratio** (p. 373)

Choose the correct term to complete each sentence.

1. Two polygons are __?__ if corresponding angles are congruent and corresponding sides are proportional.

2. The __?__ states that the product of the extremes is equal to the product of the means.

3. The ratio of the lengths of corresponding sides of two similar figures is the __?__.

4. A __?__ is a statement that two ratios are equal.

5. Finding distances using similar triangles is called __?__.

A **proportion** is a statement that two ratios are equal. According to the **Properties of Proportions,** $\frac{a}{b} = \frac{c}{d}$ is equivalent to

(1) $ad = bc$ (2) $\frac{b}{a} = \frac{d}{c}$ (3) $\frac{a}{c} = \frac{b}{d}$ (4) $\frac{a + b}{b} = \frac{c + d}{d}$

Dollhouses **Dollhouse furnishings come in different sizes depending on the size of the dollhouse. For each exercise, write a ratio of the size of the dollhouse item to the size of the larger item.**

6. dollhouse sofa: $1\frac{1}{2}$ in. long;
real sofa: 6 ft long

7. dollhouse piano: $1\frac{3}{4}$ in. high
real piano: 3 ft 6 in. high

If $\frac{p}{q} = \frac{2}{5}$, tell whether each equation must be true.

8. $2q = 5p$ **9.** $\frac{5}{2} = \frac{q}{p}$ **10.** $5q = 2p$ **11.** $\frac{p}{2} = \frac{q}{5}$

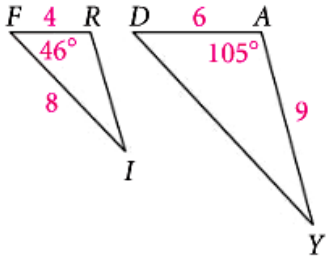
Angle-Angle Similarity Postulate (AA ~) **Side-Angle-Side Similarity Theorem** (SAS ~)

Side-Side-Side Similarity Theorem (SSS ~)

12. If $\triangle MNP \sim \triangle RST$, which angles are congruent? Write an extended proportion to indicate the proportional corresponding sides of the triangles.

The triangles are similar. Find the similarity ratio of the first to the second.

13.



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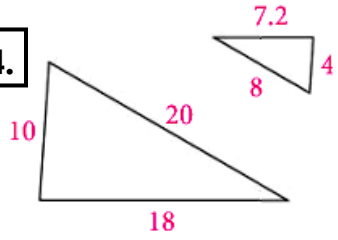
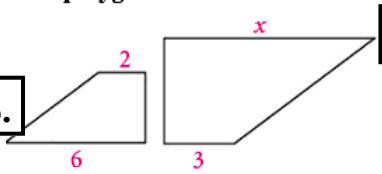


The polygons are similar. Find the value of each variable.

15.



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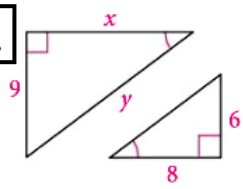
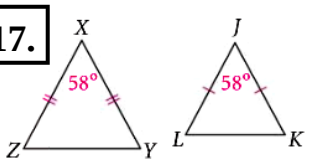


Are the triangles similar? If so, write the similarity statement and name the postulate or theorem you used. If not, explain.

17.



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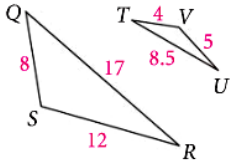

Find the values of the variables. When an answer is not a whole number, leave it in simplest radical form.

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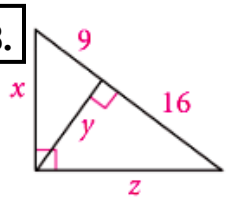

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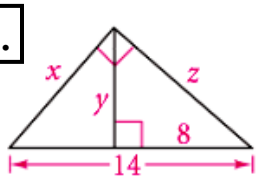

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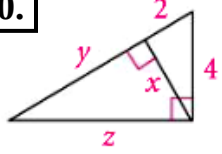
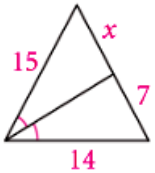


Find the value of *x*.

21.



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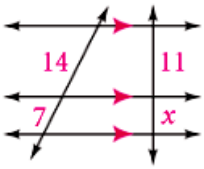

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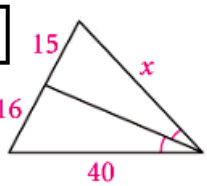

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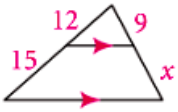

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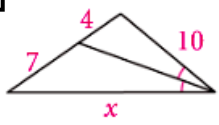

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