Name: _____ Hour: _____

H. Geometry **Chapter 7 Review**

Questions 1 – 3 are multiple choice. Circle the correct answer for each.

1. If $\frac{a}{12}=\frac{b}{6}$, complete the following statement: $\frac{b}{a}=\frac{?}{?}$

[A] $\frac{12}{6}$ [B] $\frac{6}{12}$ [C] $\frac{a}{12}$ [D] $\frac{6}{b}$

2. If $\frac{a}{12}=\frac{b}{6}$, complete the following statement: $\frac{6}{12}=\frac{?}{?}$

[A] $\frac{a}{6}$ [B] $\frac{b}{12}$ [C] $\frac{a}{b}$ [D] $\frac{b}{a}$

3. If $\frac{x}{y}=\frac{5}{8}$, which one of the following statements will *not* be true.

[A] $8x=5y$ [B] $\frac{x}{8}=\frac{5}{y}$ [C] $\frac{x+y}{y}=\frac{5+8}{8}$ [D] $\frac{x}{5}=\frac{y}{8}$

Fill in the right-hand side of the second proportion.

4. If $\frac{y}{x}=\frac{3}{5}$, then $\frac{5}{x}=$

5. If $\frac{a}{b}=\frac{5}{9}$, then $\frac{a+b}{b}=$

6. The door in a room is 8 ft. tall. An architect's model of the same door is 2 in. high. What is the ratio of the height of the model to the real height?

Solve each proportion.

7. $\frac{4}{8}=\frac{m}{22}$

8. $\frac{x}{7.5}=\frac{12}{2.5}$

9. $\frac{y}{y+2}=\frac{3}{4}$

10. $\frac{x-1}{3}=\frac{15}{9}$

Use the similarity statement to complete the statements below: $\Delta ABC \sim \Delta LMO$.

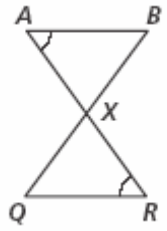
11. $m\angle C = m\angle$ ___

12. $\frac{AC}{LO} = \frac{BC}{\quad}$

13. The scale on a map is 1 in. = 120 mi. If two cities are $6\frac{1}{2}$ in. apart on the map, what is the actual distance in miles?

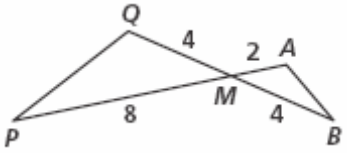
Explain why the triangles below are similar: AA~, SAS~, or SSS~. Show any work necessary to explain your reasoning below the triangles. Then write a similarity statement. If they are not similar, then put "no" and leave the next two lines blank.

14.



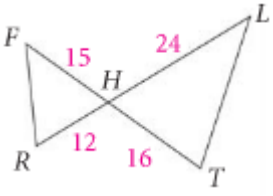
Similar? _____
Reason: _____
Similarity statement: _____

15. .



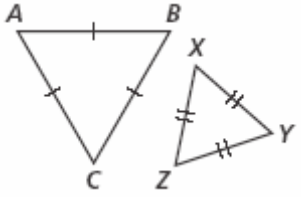
Similar? _____
Reason: _____
Similarity statement: _____

16.



Similar? _____
Reason: _____
Similarity statement: _____

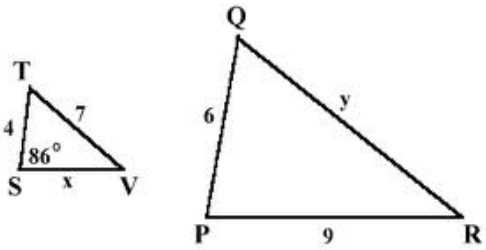
17.



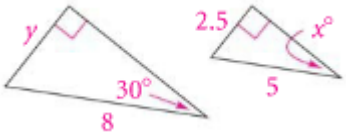
Similar? _____
Reason: _____
Similarity statement: _____

The triangles below are similar. Find the value of the variables.

18. $x =$ _____
$y =$ _____

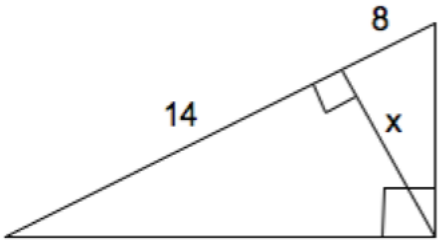


19. $x =$ _____
$y =$ _____



20. Find the value of the missing variable in each figure.

a.



b.