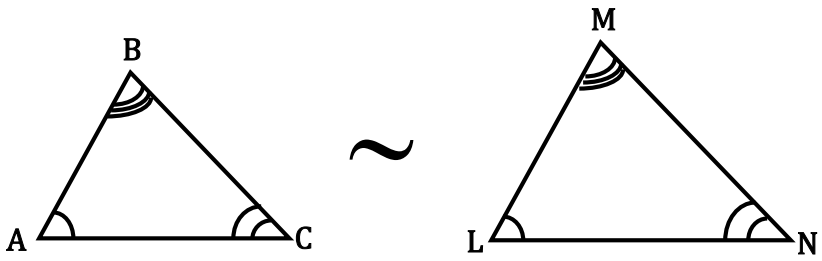
NAME_____**DATE**_____**PER.**_____

8.1: SIMILAR POLYGONS

Use the figures below to answer the questions that follow.

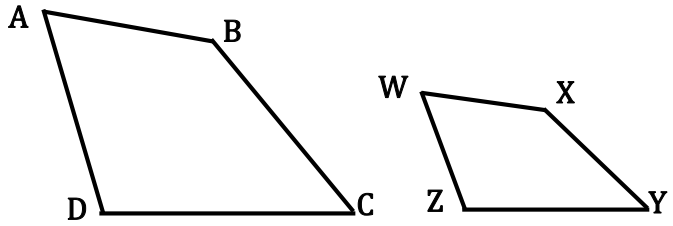
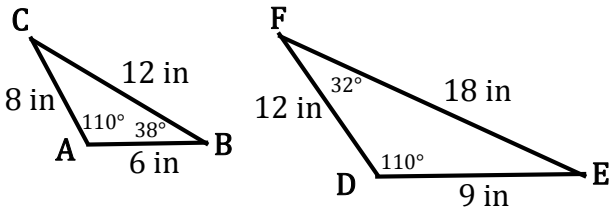
1. _____	$\angle A \cong ?$
2. _____	$\overline{AB} : ?$
3. _____	$\overline{CA} : ?$
4. _____	$\angle M \cong ?$
5. _____	$\angle C \cong ?$
6. _____	$\overline{MN} : ?$



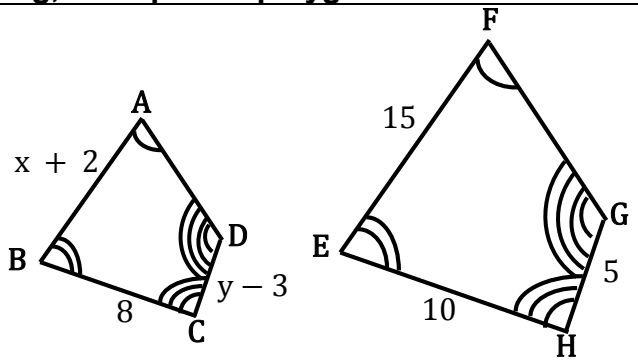
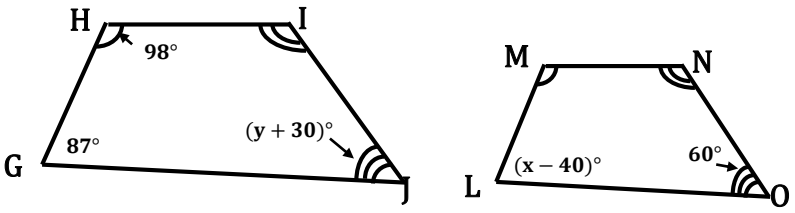
7. _____	Name the side included between $\angle A$ and $\angle B$.
8. _____	Name the angle included between $\overline{MN}$ and $\overline{LM}$.
9. _____	Name the angle included between $\overline{AC}$ and $\overline{BC}$.
10. _____	Name the side included between $\angle L$ and $\angle N$.

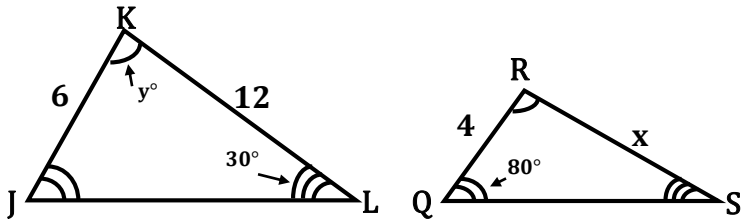
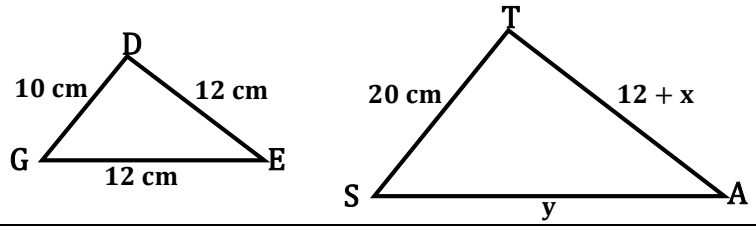
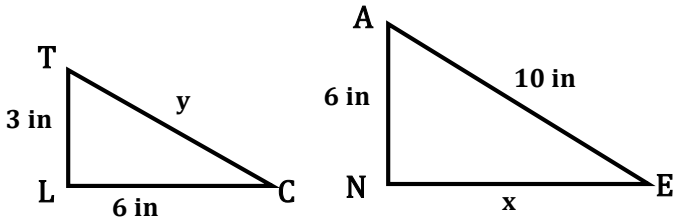
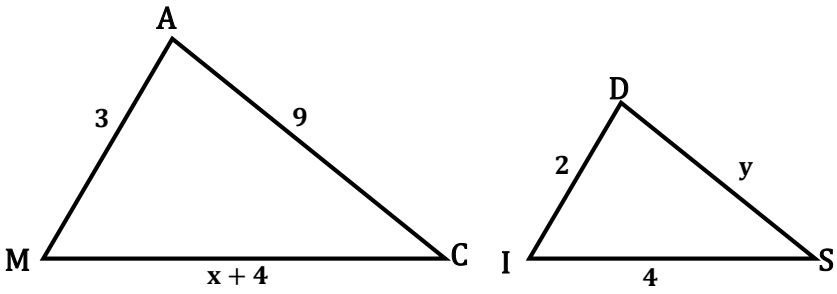
If Quad LMNO is similar to Quad WXYZ, name the following.

11. _____	$\angle L \cong ?$
12. _____	$\overline{MN} : ?$
13. _____	$\angle N \cong ?$
14. _____	$\overline{ZW} : ?$
15. _____	What angle is included between $\overline{WX}$ and $\overline{XY}$?
16. _____	What side is included between $\angle N$ and $\angle O$?

17. a) $\angle A \cong$_____ b) $\angle B \cong$ _____ c) $\angle C \cong$ _____ d) $\angle D \cong$ _____ e) $\frac{AB}{\quad} = \frac{\quad}{ZY} = \frac{BC}{\quad}$	$ABCD \sim WXYZ$ below. Use these figures to answer the questions. 
18. YES or NO Explain:	Are the two triangles shown below similar? 
19. _____	What is the scale factor of ΔFDE to ΔCAB in problem #18?
20. _____	What is the ratio of the perimeter of ΔFDE to ΔCAB?
21. _____	How do the scale factor and ratio of the perimeters of ΔFDE to ΔCAB compare?

For each of the following, each pair of polygons is similar. Find the values of 'x' and 'y'.

22. $x =$ _____ $y =$_____	
23. $x =$ _____ $y =$ _____	

24. $x =$ _____ $y =$ _____	
25. $x =$ _____ $y =$ _____	
26. $x =$ _____ $y =$ _____	
27. $x =$ _____ $y =$ _____	

Solve each of the following.

28. Measures (6): _____ _____ _____ _____ _____ _____	The sum of the measures of the interior angles of a hexagon is $720°$. The measures of the angles of a particular hexagon are in the ratio $4:5:5:8:9:9$. What are the measures of these angles?
29. Measures (2): _____ _____	The ratio of the measure of two complementary angles is $4:5$. What are the measures of the angles?

30._____	The angles of a triangle are in the ratio of $3:4:5$. What is the degree measure of the smallest angle of the triangle?

REVIEW PROBLEMS

Solve for 'x' in each of the following.

31. $x =$ _____	$\frac{x+6}{3} = \frac{5x}{9}$
32. $x =$ _____	$\frac{2x-7}{9} = \frac{12-7x}{6}$

Set up a proportion and solve.

33._____	For field trips, the Brighton School requires that the teacher to student ratio be at least $2:15$. If there are 45 students on a field trip, what is the least number of teachers needed to supervise?
34._____	Recall that the slope of a line is a ratio of the rise to the run. If a line has a slope of $\frac{3}{5}$, and you have chosen two points on the line that have a rise of 15, what is the run?

Find the correct answer.

35._____	Which of the following statements is true? A. If two figures are similar, then they are congruent. B. If two figures are congruent, then they are similar. C. If two figures are similar, then their corresponding sides have the same length. D. Not Here