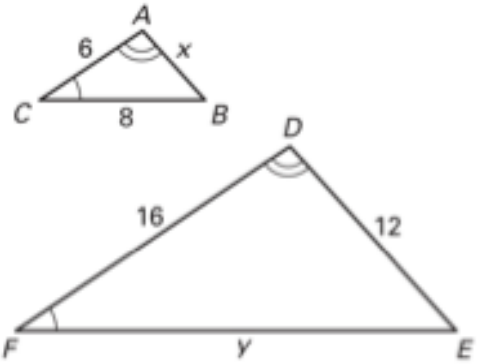
Name _____ **Date** _____

LESSON 6.4

Practice B

For use with pages 381—387

Use the diagram to complete the statement.



1. $\Delta ABC \sim$ ____
2. $\frac{AB}{\square} = \frac{\square}{EF} = \frac{CA}{\square}$
3. $\angle B \cong$ ____
4. $\frac{\square}{12} = \frac{8}{\square}$
5. $x =$ ____
6. $y =$ ____

$\frac{6}{16}$

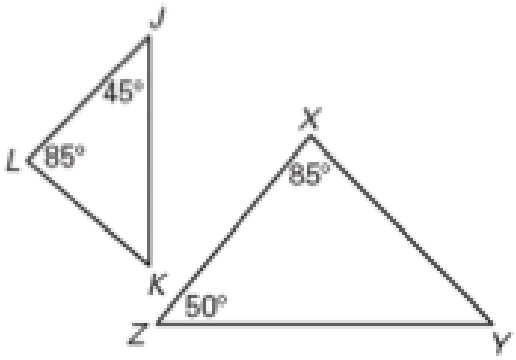
$\frac{3}{8} = \frac{8}{y}$

$3y = 64$

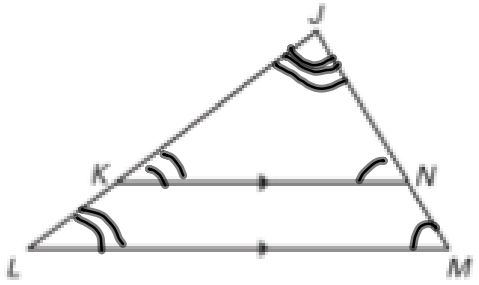
$y = 21\frac{1}{3}$

Determine whether the triangles are similar. If they are, write a similarity statement.

7.



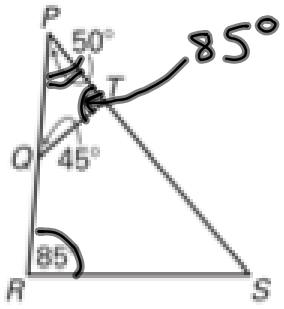
8.



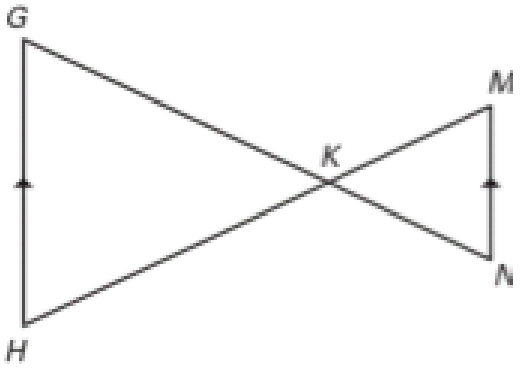
$\triangle JNK \sim \triangle JML$

$\triangle JKN \sim \triangle JLM$

9.



10.



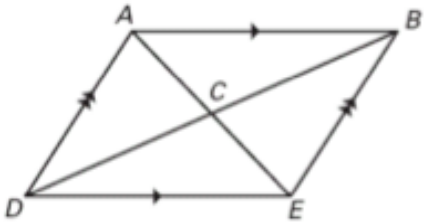
180
− 95
85

$\triangle PTQ \sim \triangle PRS$

In Exercises 11-14, use the diagram at the right.

11. List three pairs of congruent angles.

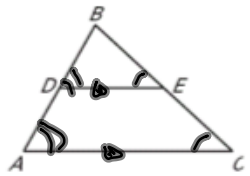
12. Name two pairs of similar triangles and write a similarity statement for each.



13. Is $\Delta ACD \sim \Delta BCE$?

14. Is $\Delta AED \cong \Delta EAB$?

15. GIVEN: $\overline{DE}$ is a midsegment of ΔABC.
PROVE: $\Delta ABC \sim \Delta DBE$



Statement	Reason
1. $\overline{DE}$ is a midseg. of ΔABC	1. Given
2. $\overline{DE} \parallel \overline{AC}$	2. Midseg. Thm.
3. $\angle BED \cong \angle BCA$ $\angle BDE \cong \angle BAC$	3. Corresponding $\angle$'s Post.
4. $\Delta ABC \sim \Delta DBE$	4. AA $\sim$ Post.

Name _____ **Date** _____

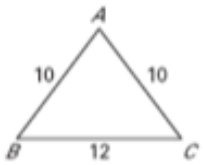
LESSON 6.5

Practice B

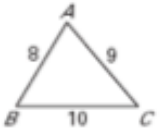
For use with pages 388–395

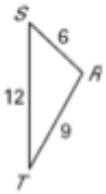
Is either ΔLMN or ΔRST similar to ΔABC?

1.



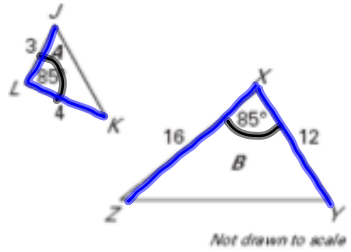
2.



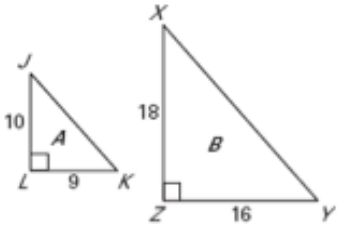


Determine whether the two triangles are similar. If they are similar, write a similarity statement and find the scale factor of ΔA to ΔB.

3.



4.



$\frac{3}{12}$ $\frac{4}{16}$

$\frac{1}{4}$ $\frac{1}{4}$

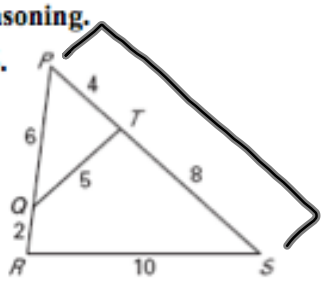
$\Delta LJK \sim \Delta XYZ$

5. Algebra Find the value of m that makes $\Delta ABC \sim \Delta DEF$ when $AB = 3$, $BC = 4$, $DE = 2m$, $EF = m + 5$, and $\angle B \cong \angle E$.

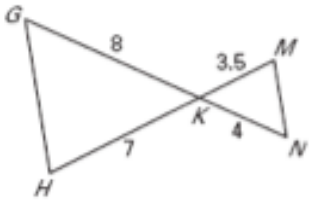
$$\frac{AB}{DE} = \frac{BC}{EF}$$

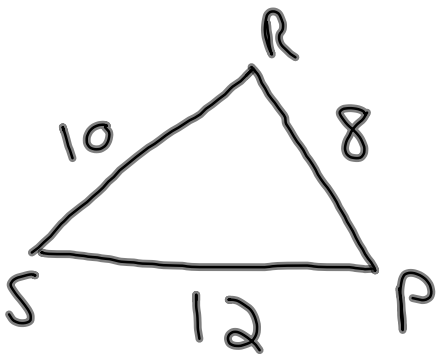
Show that the triangles are similar and write a similarity statement. *Explain* your reasoning.

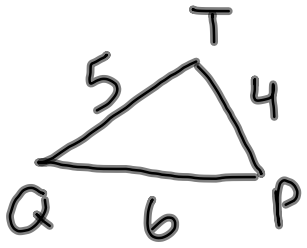
6.



7.







$$\frac{10}{5} = \frac{8}{4} = \frac{12}{6}$$

$$\frac{2}{1} = \frac{2}{1} = \frac{2}{1} \checkmark$$

$\triangle RPS \sim \triangle TPQ$

Sketch the triangles using the given description. *Explain* whether the two triangles can be similar.

8. The side lengths of ΔABC are 8, 10 and 14.
The side lengths of ΔDEF are 16, 20 and 26.

9. In ΔABC, $AB = 15$, $BC = 24$ and $m\angle B = 38°$.
In ΔDEF, $DE = 5$, $EF = 8$ and $m\angle E = 38°$.

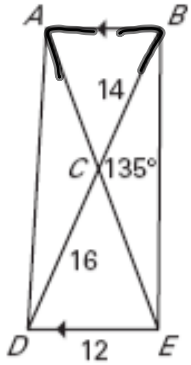
In Exercises 10-13, use the diagram at the right to copy and complete the statement.

10. $\Delta ABC \sim$ ∆EDC

11. $m\angle DCE =$ 45°

12. $AB =$ $10\frac{1}{2}$

13. $m\angle CAB + m\angle ABC =$ 135°

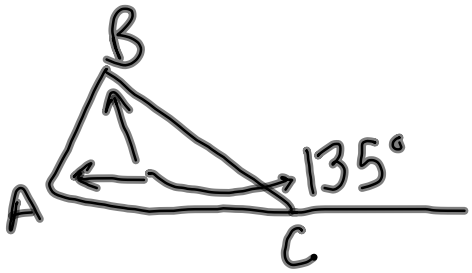


$\frac{14}{16}$

$\frac{7}{8} = \frac{AB}{12}$

$8AB = 84$

$AB = 10\frac{1}{2}$



6.4

Pg. 384-385

#3-14, 25

6.5

Pg. 392-393

#5-8, 15-17