Name _____ Date _____

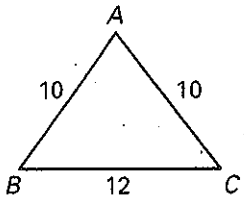
LESSON 6.5

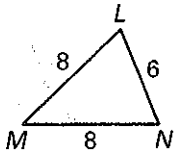
Practice B

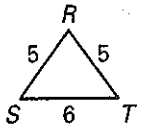
For use with pages 388–395

Is either $\triangle LMN$ or $\triangle RST$ similar to $\triangle ABC$?

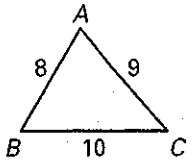
1.

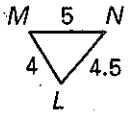


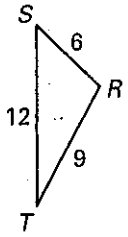




2.

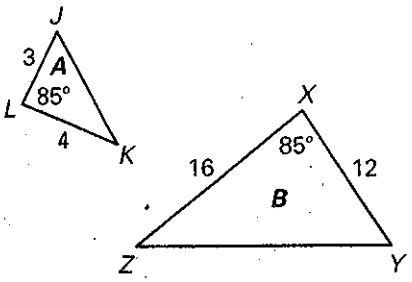






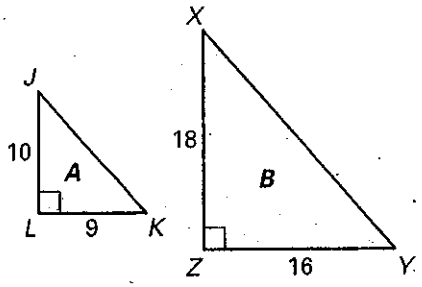
Determine whether the two triangles are similar. If they are similar, write a similarity statement and find the scale factor of $\triangle A$ to $\triangle B$.

3.



Not drawn to scale

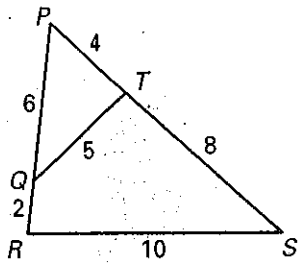
4.



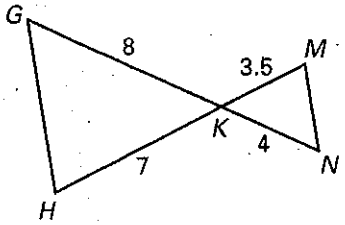
5. **Algebra** Find the value of m that makes $\triangle ABC \sim \triangle DEF$ when $AB = 3$, $BC = 4$, $DE = 2m$, $EF = m + 5$, and $\angle B \cong \angle E$.

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

6.



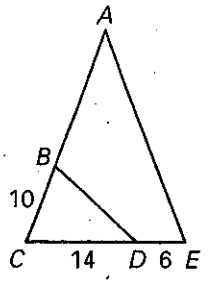
7.



Name _____ Date _____

LESSON 6.5 **Practice B** *continued*
For use with pages 388–395

8. Multiple Choice In the diagram at the right, $\triangle ACE \sim \triangle DCB$. Find the length of $\overline{AB}$.



A. 12 **B.** 18

C. $\frac{35}{2}$ **D.** $\frac{30}{7}$

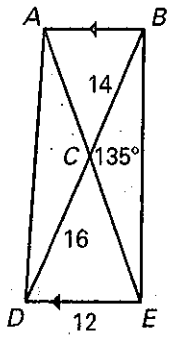
Sketch the triangles using the given description. *Explain* whether the two triangles can be similar.

9. The side lengths of $\triangle ABC$ are 8, 10 and 14.
The side lengths of $\triangle DEF$ are 16, 20 and 26.

10. In $\triangle ABC$, $AB = 15$, $BC = 24$ and $m\angle B = 38°$.
In $\triangle DEF$, $DE = 5$, $EF = 8$ and $m\angle E = 38°$.

LESSON 6.5

In Exercises 11–14, use the diagram at the right to copy and complete the statement.



11. $\triangle ABC \sim$?

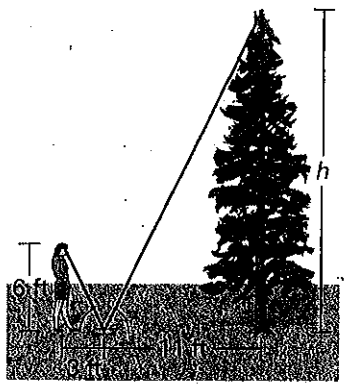
12. $m\angle DCE =$?

13. $AB =$?

14. $m\angle CAB + m\angle ABC =$?

In Exercises 15 and 16, use the following information.

Pine Tree In order to estimate the height h of a tall pine tree, a student places a mirror on the ground and stands where she can see the top of the tree, as shown. The student is 6 feet tall and stands 3 feet from the mirror which is 11 feet from the base of the tree.



15. What is the height h (in feet) of the pine tree?

16. Another student also wants to see the top of the tree. The other student is 5.5 feet tall. If the mirror is to remain 3 feet from the student's feet, how far from the base of the tree should the mirror be placed?