Name _____ Date _____

Practice B
For use with pages 388–395

Is either △LMN or △RST similar to △ABC?

1.
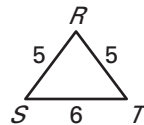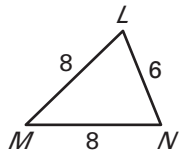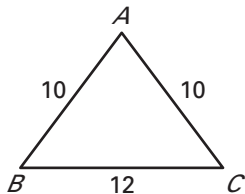
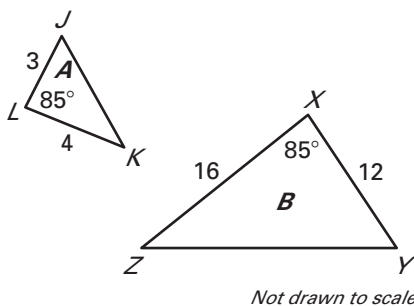**2.**
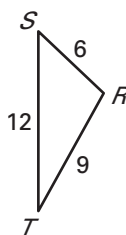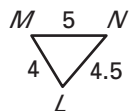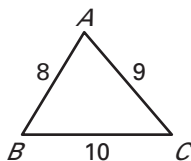
Determine whether the two triangles are similar. If they are similar, write a similarity statement and find the scale factor of △A to △B.

3.

Not drawn to scale

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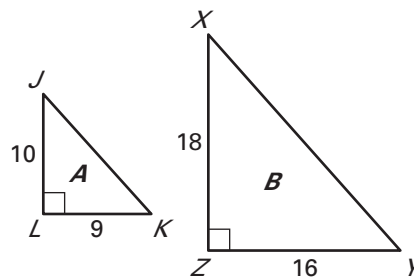
5. **Algebra** Find the value of m that makes $\triangle ABC \sim \triangle DEF$ when $AB = 3$, $BC = 4$, $DE = 2m$, $EF = m + 5$, and $\angle B \cong \angle E$.

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

6.

7.

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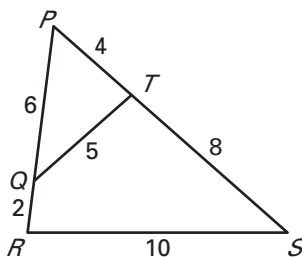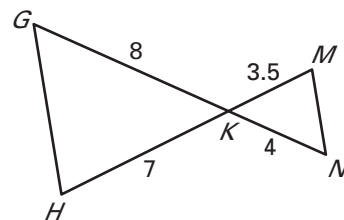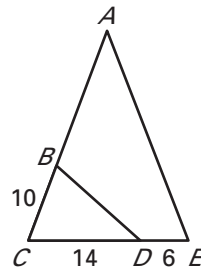 $\triangle ACE \sim \triangle DCB$. Find the length of AB.

    A. 12   **B.** 18

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

**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.   **10.** In $\triangle ABC$, $AB = 15$, $BC = 24$ and $m\angle B = 38°$.

    The side lengths of $\triangle DEF$ are 16, 20 and 26.   In $\triangle DEF$, $DE = 5$, $EF = 8$ and $m\angle E = 38°$.
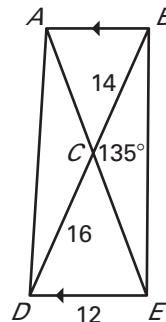
**In Exercises 11–14, use the diagram at the right
to copy and complete the statement.**

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?