5-6

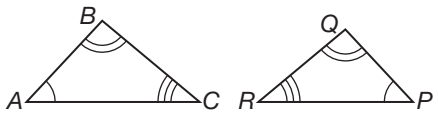
Name _____ Date _____

Similar Triangles (Pages 215–218)

Triangles that have the same shape but differ in size are called **similar triangles**. Two triangles are similar if their corresponding angles are congruent. So, if $\triangle ABC$ is similar to $\triangle DEF$, you know that $\angle A \cong \angle D$, $\angle B \cong \angle E$, and $\angle C \cong \angle F$. Use the symbol $\sim$ to indicate similar triangles. For example, $\triangle ABC \sim \triangle DEF$.

EXAMPLES

Use the figure below.



A List the congruent angles in $\triangle ABC$ and $\triangle PQR$.

Use the arcs marked on the angles as your guide to which angles are congruent. According to the arcs, $\angle A \cong \angle P$, $\angle B \cong \angle Q$, and $\angle C \cong \angle R$.

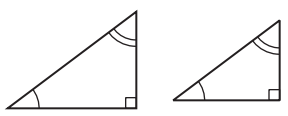
B Is $\triangle ABC$ similar to $\triangle PQR$?

Since the corresponding angles of $\triangle ABC$ and $\triangle PQR$ are congruent, then $\triangle ABC \sim \triangle PQR$.

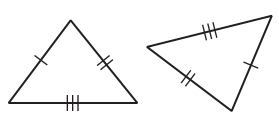
PRACTICE

***Tell whether each pair of triangles is* congruent, similar, *or* neither.**

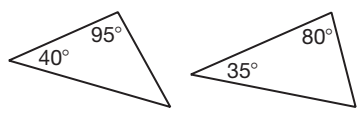
1.



2.

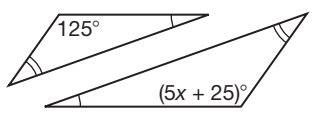


3.

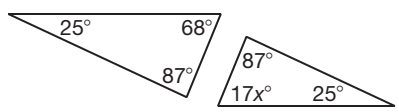


Find the value of x in each pair of similar triangles.

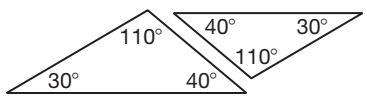
4.



5.

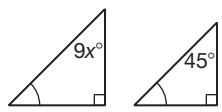


6. Design Janey is a wallpaper designer. In her new wallpaper design, she wants to include similar triangles. Are the two triangles at the right similar? Explain.



7. **Standardized Test Practice** What is the value of x in the pair of similar triangles at the right?

A 8 **B** 9 **C** 5 **D** 6



Answers: **1.** similar **2.** congruent **3.** neither **4.** 20 **5.** 4 **6.** Yes, corresponding angles are congruent. **7.** C