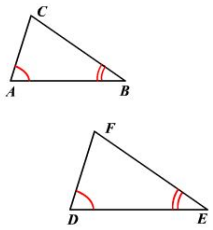
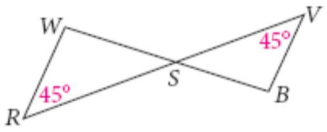
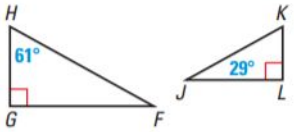
Angle-Angle Similarity	If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar.	

1. Determine whether the triangles are similar. If so, write a similarity statement. Explain your reasoning.

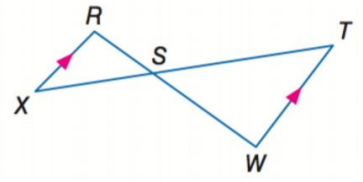
   a.

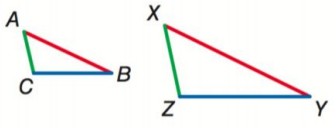


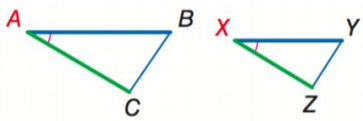
   b.



   c.

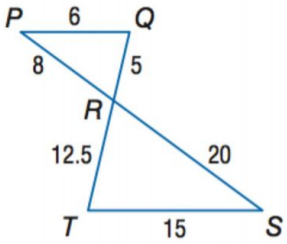


Side-Side-Side Similarity	If the corresponding side lengths of two triangles are proportional, then the triangles are similar.	 If $\frac{AB}{XY} = \frac{BC}{YZ} = \frac{CA}{ZX}$, then $\triangle ABC \sim \triangle XYZ$.

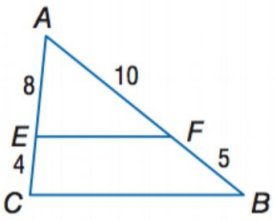
Side-Angle-Side Similarity	If the lengths of two sides of one triangle are proportional to the lengths of two corresponding sides of another triangle and the included angles are congruent then the triangles are similar.	 If $\angle A \cong \angle X$ and $\frac{AB}{XY} = \frac{CA}{ZX}$, then $\triangle ABC \sim \triangle XYZ$.

2. Determine whether the triangles are similar. If so, write a similarity statement. Explain your reasoning.

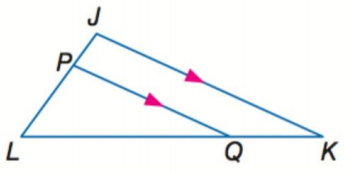
a.



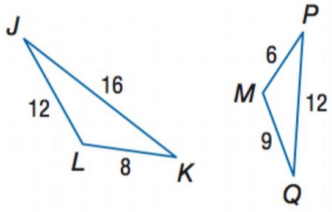
b.



c.

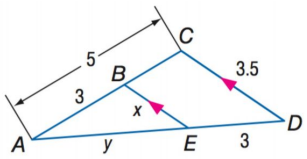


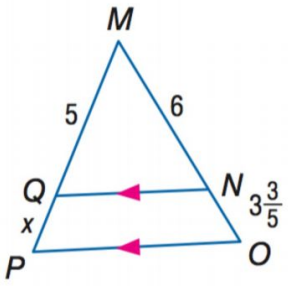
d.

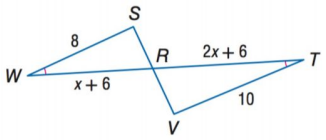


3. The following triangles are similar:

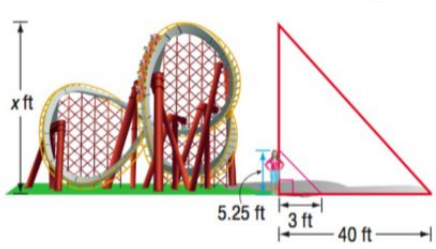
a. Find BE and AD b. Find QP and MP c. Find WR and RT







4. Hallie is estimate the height of the superman roller coaster in Mitchellville, Maryland. She is 5 feet 3 inches tall and her shadow is 3 feet long. If the length of the shadow of the roller coaster is 40 feet, how tall is the roller coaster?



5. Adam is standing next to the Palmetto Building in Columbia, South Carolina. He is 6 feet tall and the length of his shadow is 9 feet. If the length of the shadow of the building is 322.5 feet, how tall is the building?

6. Tonya is 1.3 meters tall. She stands 7 meters in front of a tree and casts a shadow of 1.8 meters long. How tall is the tree?

7. Stephanie casts a shadow of 1.2 m and she is 1.8 m tall. A wind turbine casts a shadow 10 m at the same time that Stephanie measured her shadow. Draw a diagram of this situation and then calculate how tall the wind turbine is.

8. A 40 foot flagpole casts a 25 foot shadow. Find the shadow cast by a nearby building 200 feet tall. (Draw a diagram and solve)