

## Similarity

1. How are congruence and similarity related?

2. There are 4 ways to prove that triangles are similar:

1.

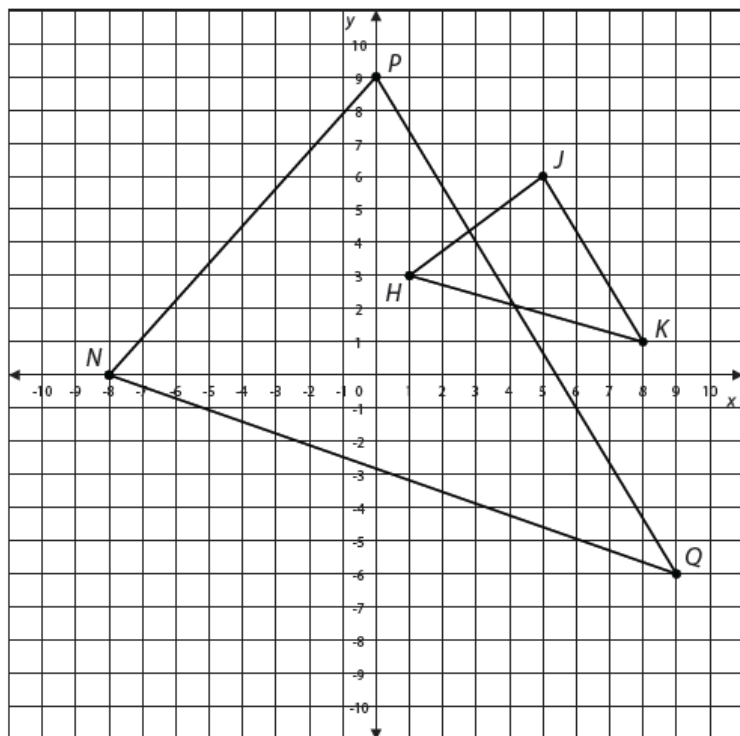
2.

3.

4.

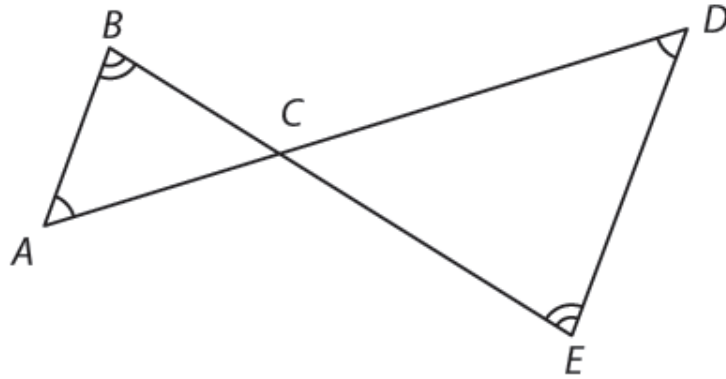
Determine if the figures are similar based on the fact that dilations are similar.

3.



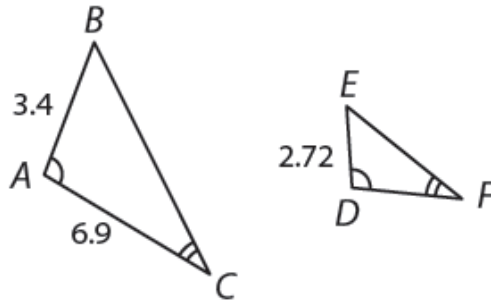
4.

Explain why the triangles are similar and write a similarity statement.



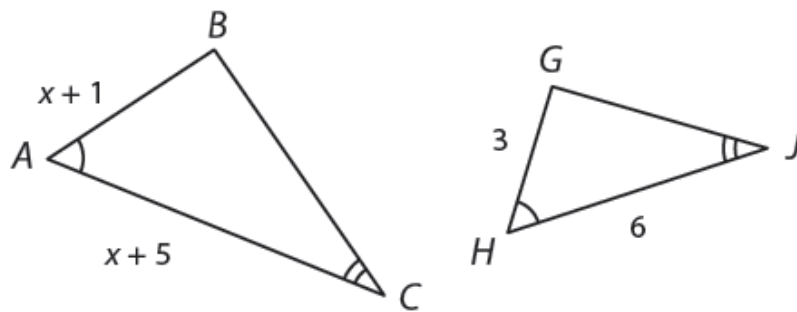
5.

Explain why  $\triangle ABC \sim \triangle DEF$ , and then find the length of  $DF$ .



6.

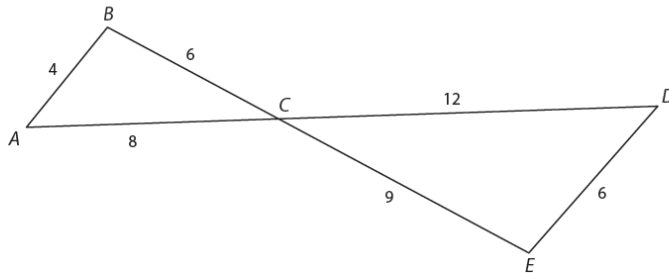
Identify the similar triangles. Find  $x$  and the measures of the indicated sides.



7. Suppose a person 5 feet 10 inches tall casts a shadow that is 3 feet 6 inches long. At the same time of day, a flagpole casts a shadow that is 12 feet long. To the nearest foot, how tall is the flagpole?

8.

Prove  $\triangle ABC \sim \triangle DEC$ .



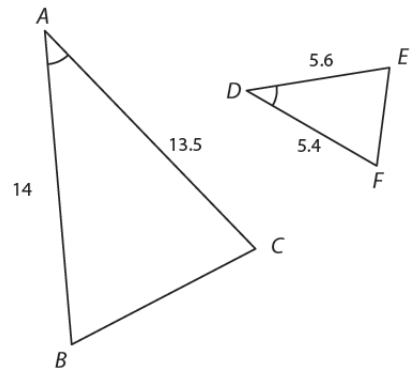
Statement

Reason

9. Prove that the triangles are similar.

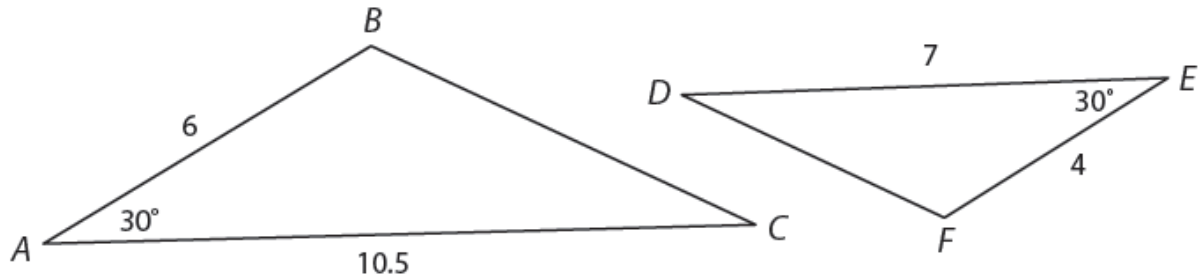
Statement

Reason

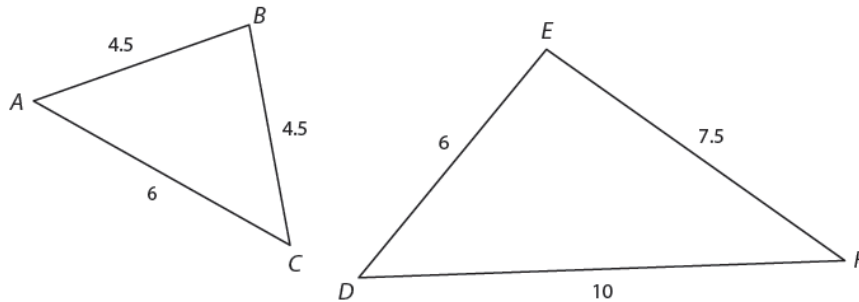


10.

Determine whether the triangles are similar. Explain your reasoning.



11. Determine whether the triangles are similar. Explain your reasoning.



12. Identify the similar triangles and then find the value of x.

