

# Assignment

## Write

Give an example of each term. Include a sketch with each example.

1. Angle-Angle Similarity
2. Side-Side-Side Similarity
3. Side-Angle-Side Similarity
4. included angle
5. included side

## Remember

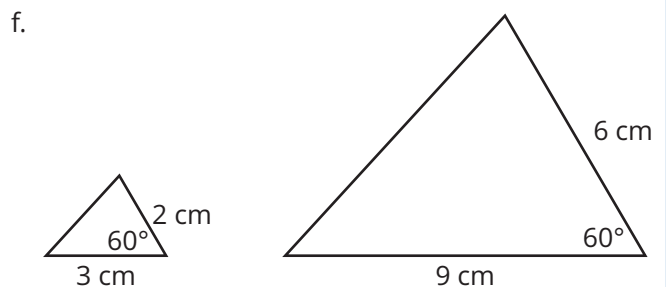
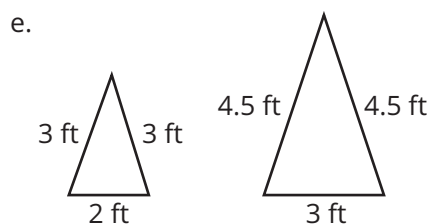
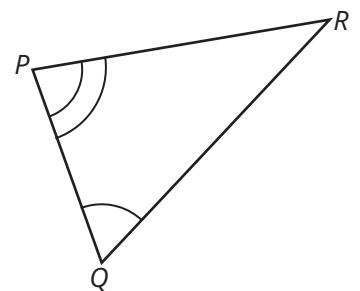
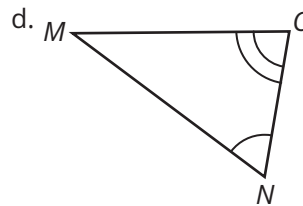
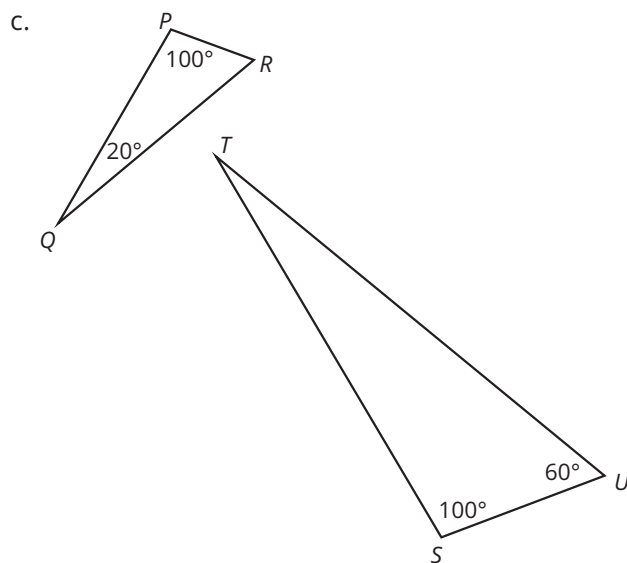
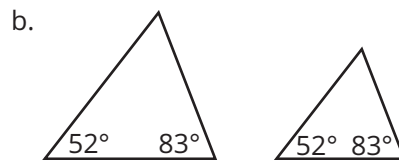
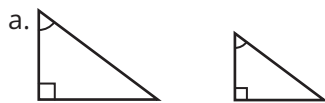
The Angle-Angle Similarity Theorem states: "If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar."

The Side-Side-Side Similarity Theorem states: "If all three corresponding sides of two triangles are proportional, then the triangles are similar."

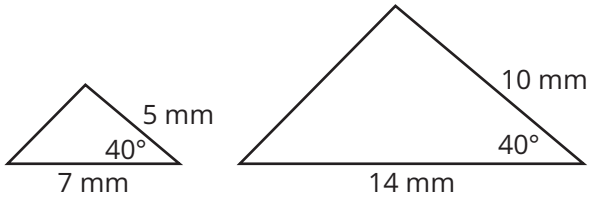
The Side-Angle-Side Similarity Theorem states: "If two of the corresponding sides of two triangles are proportional and the included angles are congruent, then the triangles are similar."

## Practice

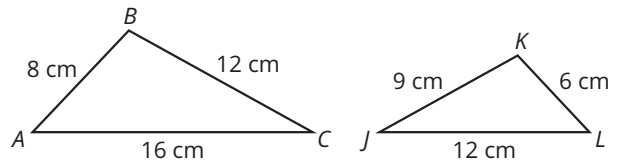
1. Determine whether the triangles in each pair are similar. Explain your reasoning.



g.

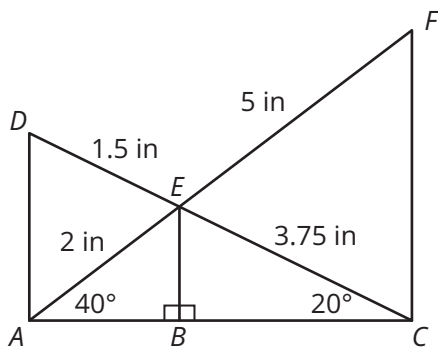


h.



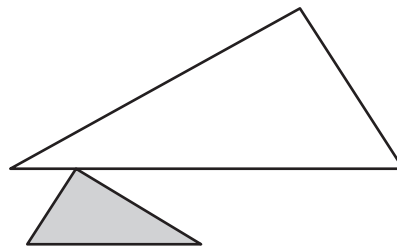
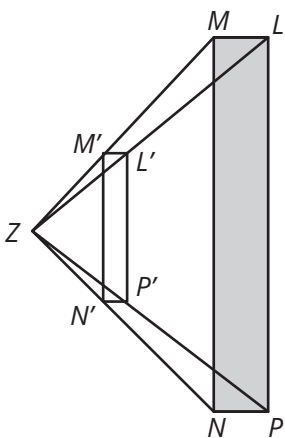
## Stretch

Determine whether there are any similar triangles in the figure. Explain your reasoning.

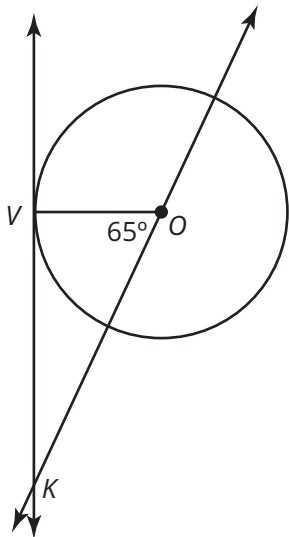


## Review

- Given the pre-image and image, determine the scale factor.
- Demonstrate that the two triangles are similar using a sequence of dilations and rigid motions.



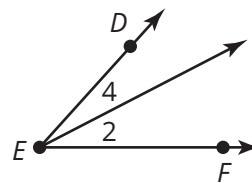
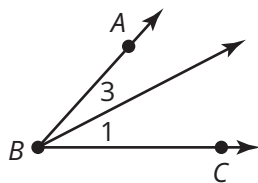
3. If  $\overline{KV}$  is a tangent segment and  $\overline{OV}$  is a radius, what is the measure of  $\angle VKO$ ? Explain your reasoning.



4.

Given:  $m\angle 1 = m\angle 2$ ;  $m\angle 3 = m\angle 4$

Prove:  $m\angle ABC = m\angle DEF$



Statements	Reasons
1. $m\angle 1 = m\angle 2$ ; $m\angle 3 = m\angle 4$	1.
2. $m\angle 1 + m\angle 3 = m\angle ABC$ $m\angle 2 + m\angle 4 = m\angle DEF$	2.
3. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$	3.
4. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$	4.
5. $m\angle ABC = m\angle DEF$	5.