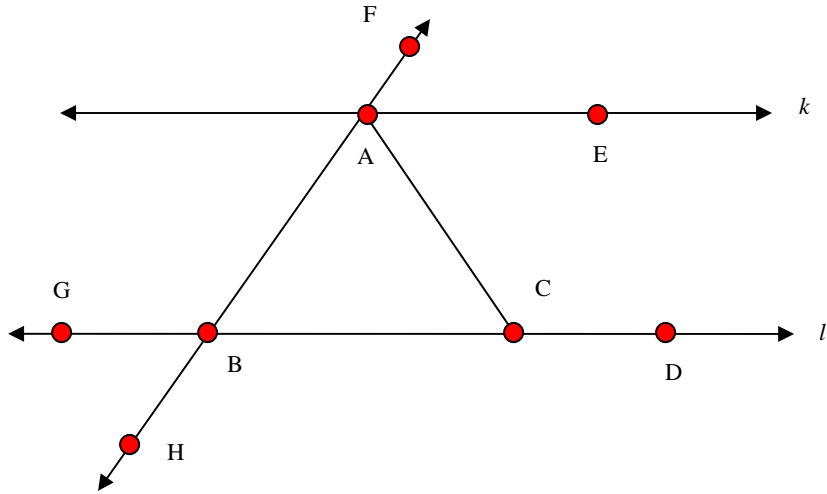


# Post-Test

## Geometry

1. How many points determine a plane?
2. Find the distance from the point  $A=(-1, 4)$  to the point  $B=(2, 8)$ . Show work.
3. Give the general formula for finding the midpoint of a line segment.
4. We say that two angles are supplementary if and only if \_\_\_\_\_  
\_\_\_\_\_
5. List at least four methods for determining whether two triangles are congruent.  
\_\_\_\_\_
6. Suppose two parallel lines are cut by a transversal. What can you say about the alternate interior angles that are formed?  
\_\_\_\_\_  
\_\_\_\_\_
7. Congruent triangles have the same area. Show by example that the converse of this statement is false.

8. The lines  $k$  and  $l$  are parallel in the figure below.



$m\angle GBH = 70^\circ$  and  $m\angle EAC = 40^\circ$ . Give the measure of angle FAE.  
Justify your conclusion.

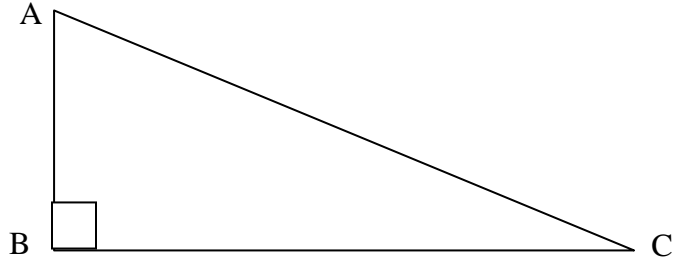
9. Two triangles are similar if and only if \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. What can you say about the point of intersection of the diagonals of a parallelogram?  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Explain how each of the following transformations affects the area of a triangle.

- a. Dilation \_\_\_\_\_
- b. Reflection \_\_\_\_\_
- c. Translation \_\_\_\_\_
- d. Rotation \_\_\_\_\_

12. The right triangle ABC is shown below.



Given:  $\overline{AC} = 6$  and  $m\angle C = 30^\circ$ . Find  $\overline{AB}$  and  $\overline{BC}$ .