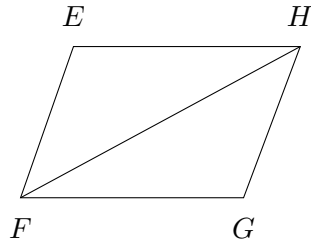


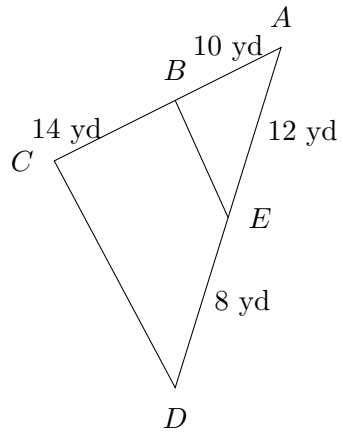
MA 202: Similarity and Congruence

1. State the three congruence postulates, the similarity postulate, and the two similarity theorems for triangles. Sketch a diagram for each.

2. When opposite angles of a quadrilateral are congruent, the quadrilateral is a parallelogram. In the figure, $\triangle EFH \cong \triangle GHF$. Determine whether quadrilateral $EFGH$ is a parallelogram.



3. Determine whether the two triangles are similar. Explain your reasoning. Write the similarity statement for the triangles, if possible.



4. To find out how tall your house is, you stand next to your house so the tip of your shadow coincides with the tip of the shadow of your house. How tall is your house if you are standing 30 feet from the house, your shadow is 8 feet long, and you are 6 feet tall?

5. You can ride your bike from your house to your friend's house on a straight path or on the road. To ride on the road, you ride 2 miles south, 3 miles east, then 4 miles south again.

(a) Draw a map of the path and roads.

(b) How do you know that the triangles formed by the path and the roads are similar?

(c) Use similar triangles to find the distances of the missing legs of the triangles.

(d) How much shorter is it to ride on the path than to ride on the road?