NAME _____ DATE _____ PERIOD _____

Geometry Lab Recording Sheet

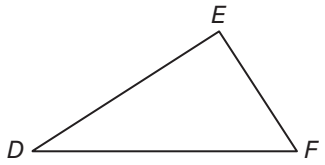
(Use with Explore 5-2 on page 332 in the Student Edition)

Constructing Medians and Altitudes

Materials: compass, straightedge, paper

Construction 1

Step 1 Draw intersecting arcs above and below $\overline{DE}$. Label the points of intersection R and S.

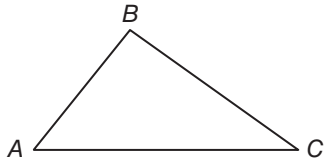


Step 2 Use a straightedge to find the point where $\overline{RS}$ intersects $\overline{DE}$. Label the midpoint M.

Step 3 Draw a line through F and M. $\overline{FM}$ is a median of $\triangle DEF$.

Construction 2

Step 1 Place the compass at vertex B and draw two arcs intersecting $\overline{AC}$. Label the points where the arcs intersect the side X and Y.



Step 2 Adjust the compass to an opening greater than $\frac{1}{2}XY$ Place the compass on X and draw an arc above $\overline{AC}$. Use the same setting to draw an arc from Y. Label the point of intersection of the arcs H.

Step 3 Use a straightedge to draw $\overleftrightarrow{BH}$. Label the point where $\overleftrightarrow{BH}$ intersects $\overline{AC}$ as D. $\overline{BD}$ is an altitude of $\triangle ABC$ and is perpendicular to $\overline{AC}$.

Model and Analyze

1. Construct the medians of the other two sides of $\triangle DEF$. What do you notice about the medians of a triangle?

2. Construct the altitudes to the other two sides of $\triangle ABC$. (*Hint:* You may need to extend the lines containing the sides of your triangle.) What do you observe?