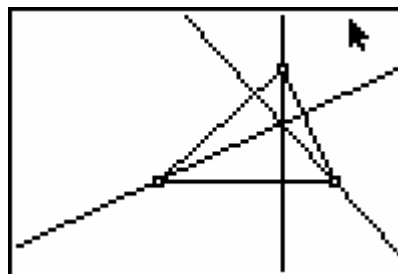


CABRI™ JR. ACTIVITY 10: EXPLORING THE *ORTHOCENTER* OF A TRIANGLE

ACTIVITY OVERVIEW:

In this activity we will

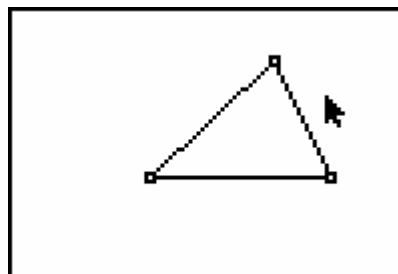
- Draw a triangle
- Draw the altitudes of the triangle
- Locate the *orthocenter*
- Explore properties of the *orthocenter*



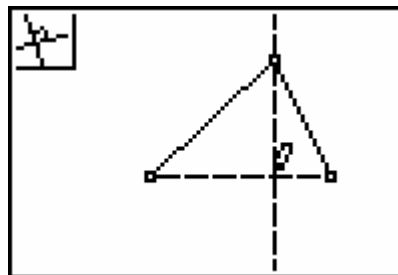
Press **[APPS]**. Move down to the CabriJr APP and press **[ENTER]**. Press **[Y=]** for the F1 menu and select **New**. (If asked to **Save changes?** press **[↩]** **[ENTER]** to choose “No.”)



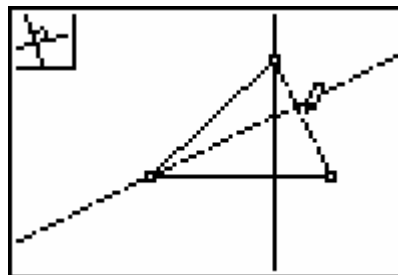
Press **[WINDOW]** for F2, move down to **Triangle** and press **[ENTER]**. Move to the location of a vertex and press **[ENTER]**. Move to the second vertex and press **[ENTER]**. Move to the third vertex and press **[ENTER]**. Press **[CLEAR]** to exit the triangle drawing tool.



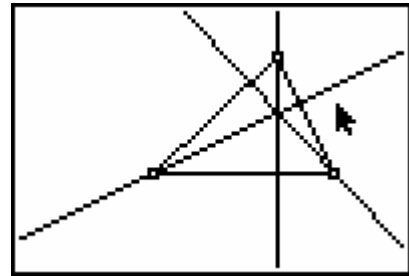
Press **[ZOOM]** for the F3 menu, move to **Perp.**, and press **[ENTER]**. Move the pencil to a vertex and when it is flashing, press **[ENTER]**. Move the arrow to the side opposite the vertex and press **[ENTER]**. This will draw a line through the vertex and perpendicular to the opposite side.



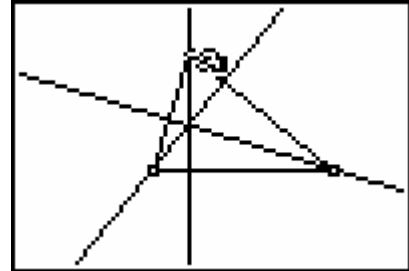
With the **Perp.** tool still active, move until the pencil is near another vertex. When the point is flashing, press **[ENTER]** then move to the opposite side and press **[ENTER]**.



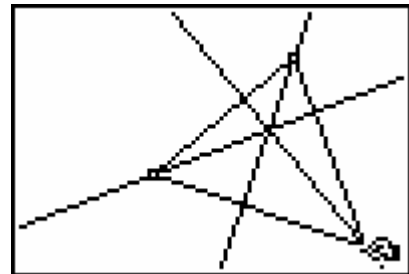
With the **Perp.** tool still active, move until the pencil is near the third vertex. When the point is flashing, press **ENTER** then move to the opposite side and press **ENTER**. Press **CLEAR** to exit the **Perp.** drawing tool.



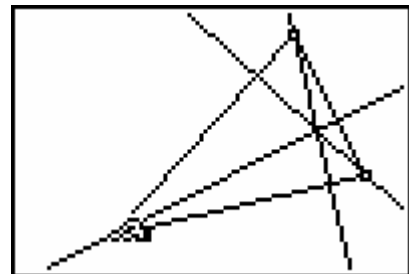
What appears to be true about the intersection of the altitudes of the triangle?
 (They appear to intersect at a common point.)
 Move to a vertex of the triangle, press **ALPHA** to activate the *hand* and move the vertex to a new location.



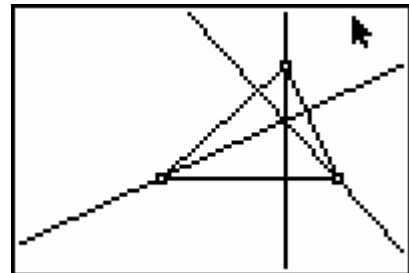
Press **CLEAR** to deactivate the *hand* and move to a different vertex of the triangle. Press **ALPHA** and move the point at this vertex.
 What appears to be true about the intersection of the altitudes of the angles of the triangle?



Press **CLEAR** to deactivate the *hand* and move to a different vertex of the triangle. Press **ALPHA** and move the third point defining the triangle.
 What appears to be true about the intersection of the altitudes of the angles of the triangle?



The altitudes of a triangle intersect at a common point. This point is called the *orthocenter* of the triangle.
 What is true about the *orthocenter* of an acute triangle? an obtuse triangle? a right triangle?



Exit the APP using F1 and selecting Quit, or by pressing **2nd** **MODE** for **[QUIT]**.

