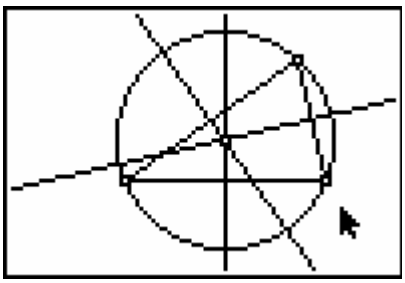
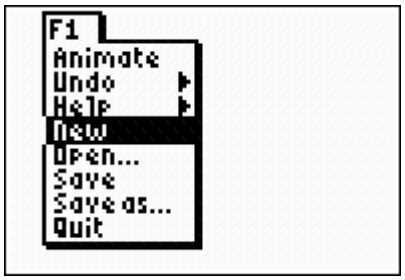
CABRI™ JR. ACTIVITY 13: CIRCUMSCRIBING A CIRCLE ABOUT A TRIANGLE

ACTIVITY OVERVIEW:
In this activity we will

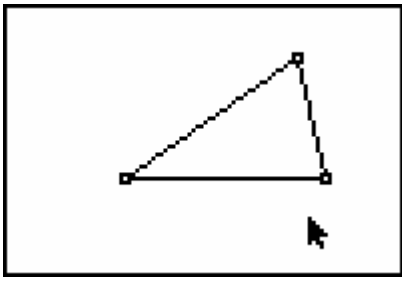
- Draw a triangle
- Draw the perpendicular bisector of each side
- Locate the *circumcenter*
- Find the distance from the *circumcenter* to a vertex of the triangle
- Draw the *circumcenter* of the triangle.



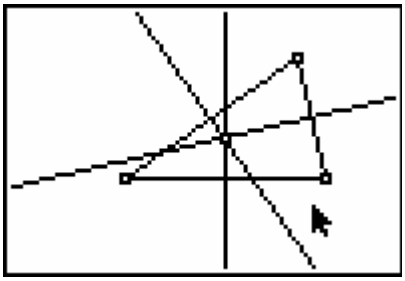
Press [APPS]. Move down to the Cabri Jr APP and press [ENTER]. Press [ENTER], or any key, to begin using the application.
Press [Y=] for the F1 menu and select **New**. (If asked to **Save changes?** press [◄] [ENTER] to choose "No.")



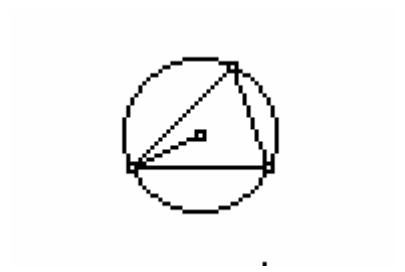
Press [WINDOW] for F2, move down to **Triangle** and press [ENTER]. Move to the location of a vertex and press [ENTER]. Move to the second vertex and press [ENTER]. Move to the third vertex and press [ENTER]. Press [CLEAR] to exit the triangle drawing tool.



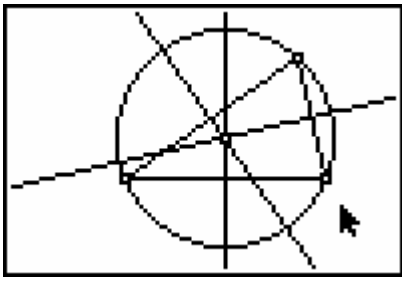
Press [ZOOM] for the F3 menu and move down to **Perp. Bis.** and press [ENTER]. Move the arrow until one side of the triangle is selected (flashing) and press [ENTER]. The **Perp. Bis.** tool is still active, so move to another side of the triangle and press [ENTER] when the side is flashing. Repeat for the third side of the triangle. Press [CLEAR] to exit the **Perp. Bis.** drawing tool.



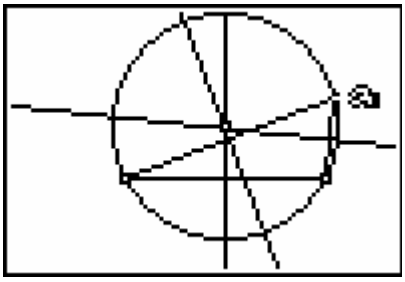
The perpendicular bisectors of the sides of any triangle intersect at a common point. This point is called the *circumcenter* of the triangle and is equidistant to the vertices. This point is also the center of the *circumcircle* of the triangle. This is the circle with its center at the *circumcenter* and a radius equal to the distance from the *circumcenter* to a vertex.



Press [WINDOW] for F2, move down to **Circle** and press [ENTER]. Move the pencil until two of the perpendicular bisectors are flashing and press [ENTER]. This will mark the *circumcenter* of the triangle as the center of the circle you are drawing. Move the pencil until a vertex point is flashing and press [ENTER]. Press [CLEAR] to turn off the **Circle** tool.



Move to a vertex, press [ALPHA], and observe the changes in the *circumcenter* and the circle as you move the vertex.



To exit the APP, press [Y=] for the F1 menu. Move to **Quit**, then press [ENTER]. (Or you can press [2nd] [MODE] for [QUIT].)