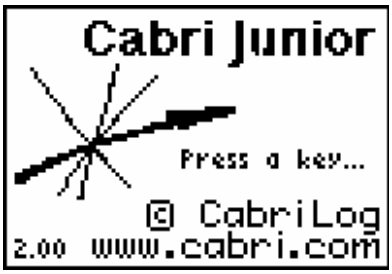
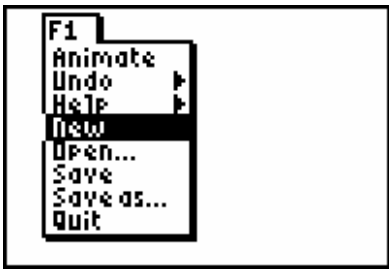
ACTIVITY OVERVIEW:
In this activity we will

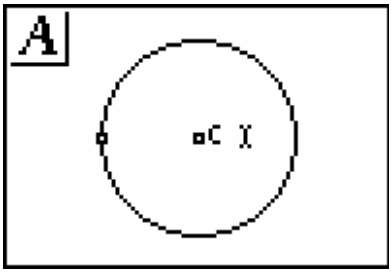
- Create an Ellipse with an envelope of lines



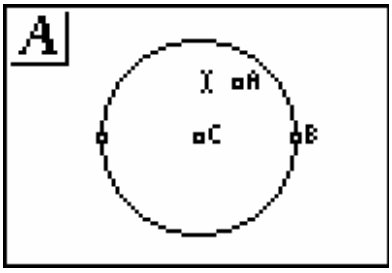
Press [APPS]. Move down to the CabriJr APP and press [ENTER]. Press [ENTER], or any key, to begin using the application. Press [Y=] for the F1 menu and select **New**. (If asked to **Save changes?** press [◄][ENTER] to choose "No.")



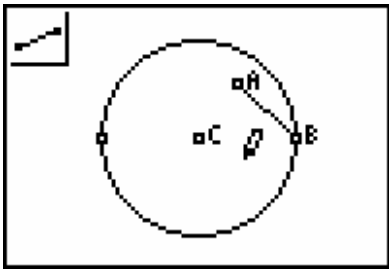
Press [WINDOW] for F2, move down to **Circle** and press [ENTER]. Press [ENTER] to mark the center of the circle. Move the cursor several times to the right and press [ENTER] to mark the radius of the circle. Label the center of the circle **C**. Press [GRAPH] for F5, move up or down to **Alph-Num** and press [ENTER]. Move the cursor to the center and press [ENTER] then press [PRGM] for **C** and press [ENTER].



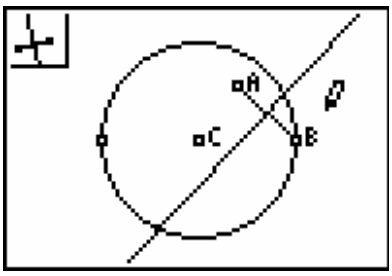
Construct a point **A** in the interior of the circle and a point **B** on the circle. (Make sure **B** is **not** the radius point.)



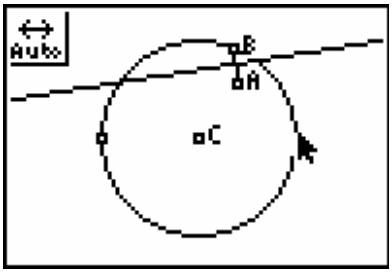
Press [WINDOW] for F2, move up or down to **Segment** and press [ENTER]. Move the cursor to create segment $\overline{\mathbf{AB}}$.



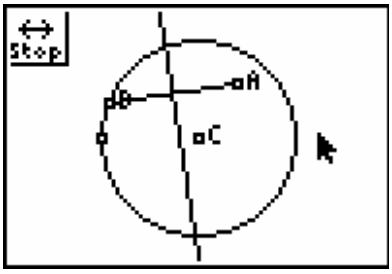
Press [ZOOM] for F3, move up or down to **Perp. Bis.** and press [ENTER]. Move the cursor to segment $\overline{\mathbf{AB}}$ and press [ENTER] when segment $\overline{\mathbf{AB}}$ is "dancing". The perpendicular bisector of $\overline{\mathbf{AB}}$ will be created.



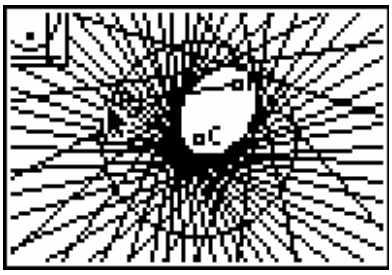
Press [Y=] for the F1 menu and select **Animate**. Move the cursor over point **B** and the cursor will become ↔ and press [ENTER]. Point **B** and the perpendicular line should be moving.



Press [2nd] and press [ENTER] to stop the animation when point **B** is visible.



Press [ZOOM] for the F3 menu and move up or down to select **Locus** and press [ENTER]. Move the cursor over the perpendicular bisector until it starts "dancing" and the cursor becomes a filled in arrow then press [ENTER]. Move the cursor to point **B** and the cursor will become ↔ press [ENTER].



Moving the radius point to make the circle larger or moving point **A** to make segment $\overline{\mathbf{AB}}$ longer will change the shape of your ellipse.