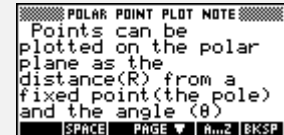### *Objectives:*
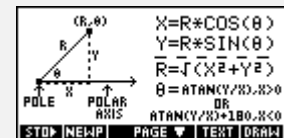
Using the **POLAR POINT PLOT** aplet, the student will plot points in polar form and will convert polar coordinates to rectangular coordinates and vice versa.

Functionality:

When the student presses **START** , the **NOTE** view will be displayed.

After reading the note, the student should press **SKETCH** for further explanation.

VIEWS allows the student to plot a polar point, guess the rectangular coordinates, plot a rectangular point, and guess the polar coordinates.
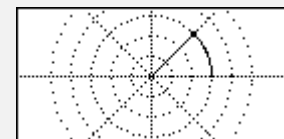
Plot (R, θ) prompts the student to enter a radius and an angle to be plotted.

After the radius and angle have been entered, a choose box gives the option to erase the previous plotted point.
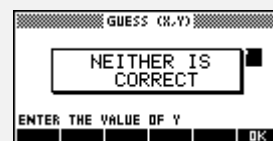
After this selection has been made, the point is plotted on a polar grid along with the radius and angle of rotation.

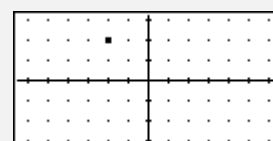**Guess (X, Y)** prompts the student to enter the rectangular coordinates that match the polar point.

After entering both coordinates, a message box will appear stating which information is correct.
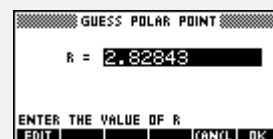
After the message box, the student's rectangular point (plotted as an X) along with the horizontal and vertical distances will be plotted over the polar grid paper to show the hit or miss.

Plot (X, Y) randomly plots a point on the Cartesian plane.

Guess (R, θ) prompts the student for the corresponding radius and angle when the rectangular point is converted to polar form.

After entering both coordinates, a message box will appear stating which information is correct.

After the message box, the student's polar point (plotted as an cross) along with the radius and angle of rotation will be plotted over the Cartesian grid to show the hit or miss.
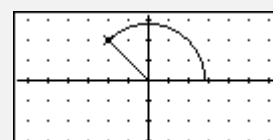
Additional Exploration:

Using the Solve aplet, convert from polar coordinates to rectangular coordinates. An example would be:

Convert (6, 210°) to rectangular coordinates.
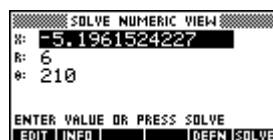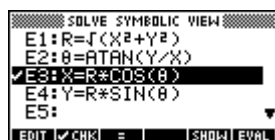
Programs associated with this aplet:
.PPP.EP, .PPP.GC, .PPP.PC, .PPP.GP, .PPP.ST, .PPP.SV