

## Polar Coordinates Demonstration Activity

- 1) Open the Polar Coordinates Demonstration located at <http://demonstrations.wolfram.com/PolarCoordinates/>
- 2) First get familiar with the various options.  
Move the circle around the graph and watch as  $x$ ,  $y$ ,  $r$ , and  $\theta$  change.
- 3) Let  $r = 4$  and  $\theta = .81$ , find  $x = \underline{\hspace{2cm}}$  and  $y = \underline{\hspace{2cm}}$ .  
Show how to calculate  $x$  and  $y$  by hand also.
  
  
  
  
  
  
  
  
  
  
- 4) Let  $x = -4$  and  $y = -2$ , find  $r = \underline{\hspace{2cm}}$  and  $\theta = \underline{\hspace{2cm}}$ .  
Show how to calculate  $r$  and  $\theta$  by hand also.
  
  
  
  
  
  
  
  
  
  
- 5) Let  $x = 0$  and  $y = -3$ , find  $r = \underline{\hspace{2cm}}$  and  $\theta = \underline{\hspace{2cm}}$ .  
Show how to calculate  $r$  and  $\theta$  by hand also.
  
  
  
  
  
  
  
  
  
  
- 6) Let  $r = 0$  and  $\theta = \frac{2\pi}{3}$ , find  $x = \underline{\hspace{2cm}}$  and  $y = \underline{\hspace{2cm}}$ .  
Show how to calculate  $x$  and  $y$  by hand also.