

## Appendix J.3

#4) solve for  $\sin(t)$  and  $\cos(t)$

$$x+5 = 3\sin t$$

$$y-1 = 3\cos t$$

$$\frac{x+5}{3} = \sin t$$

$$\frac{y-1}{3} = \cos t$$

Since  $\sin^2 t + \cos^2 t = 1$  we get

$$\left(\frac{x+5}{3}\right)^2 + \left(\frac{y-1}{3}\right)^2 = 1$$

OR  $\frac{(x+5)^2}{9} + \frac{(y-1)^2}{9} = 1$  OR  $(x+5)^2 + (y-1)^2 = 9$

This is a circle of Radius 3 centered at the point  $(-5, 1)$

To find the direction  
plug in values of  $t$

$$t=0, t=\pi/2, \dots$$

