8. $\vec{r}(t) = \cos(3t)\vec{i} + \sin(3t)\vec{j} + t\vec{k} \quad 0 \le t \le \pi$ (LEFT)

$\vec{r}(t) = \ln(t)\vec{i} + 2t\vec{j} + t\vec{k} \quad 0 \le t \le 3$ (RIGHT)

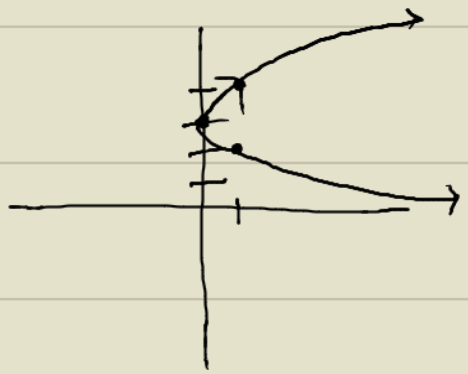
9. $\vec{r}(t) = t^2\vec{i} + (t+3)\vec{j}$

$x = t^2 \quad y = t+3$

$y-3 = t$

PLUG INTO $x = t^2$

$x = (y-3)^2$



10. $r(\theta) = (2\cos\theta)\vec{i} + (5\sin\theta)\vec{j}$

$x = 2\cos\theta \quad y = 5\sin\theta$

$\frac{x}{2} = \cos\theta \quad \frac{y}{5} = \sin\theta$

$\frac{x^2}{4} = \cos^2\theta \quad \frac{y^2}{25} = \sin^2\theta$

$\frac{x^2}{4} + \frac{y^2}{25} = \cos^2\theta + \sin^2\theta$

$\frac{x^2}{4} + \frac{y^2}{25} = 1$