10.2 #16

(16) $r = 3\cos\theta - 2\sin\theta$

$r^2 = 3r\cos\theta - 2r\sin\theta$

$x^2 + y^2 = 3x - 2y$

$x^2 - 3x + y^2 + 2y = 0$

$x^2 - 3x + \frac{9}{4} - \frac{9}{4} + y^2 + 2y + 1 - 1 = 0$

$(x - \frac{3}{2})^2 + (y + 1)^2 = \frac{13}{4}$

Circle. Center $(\frac{3}{2}, -1)$

Radius $\frac{\sqrt{13}}{2}$