

## Polar and Parametric Curves

1. Find the area inside both  $r = 2 \cos\theta$  and  $r = 2 \sin\theta$ .
2. Eliminate the parameter and sketch:  $x = \sqrt{t}$ ,  $y = 3t - 2$ .
3. Find an equation of the tangent line to the curve  $x = t \cos t$ ,  $y = t \sin t$  at the point where  $t = \frac{\pi}{2}$ .
4. Find the arc length of the curve  $x = e^t \sin t$ ,  $y = e^t \cos t$ ,  $0 \leq t \leq \pi$ .