Practice Problems 1

Change to a polar equation.

1. $x = y + 1$
2. $4y = x^2$
3. $x^2 - y^2 = 16$
4. $x^2 + (y - 4)^2 = 8$

Practice Problems 2

Change to a rectangular equation.

1. $r = 5$

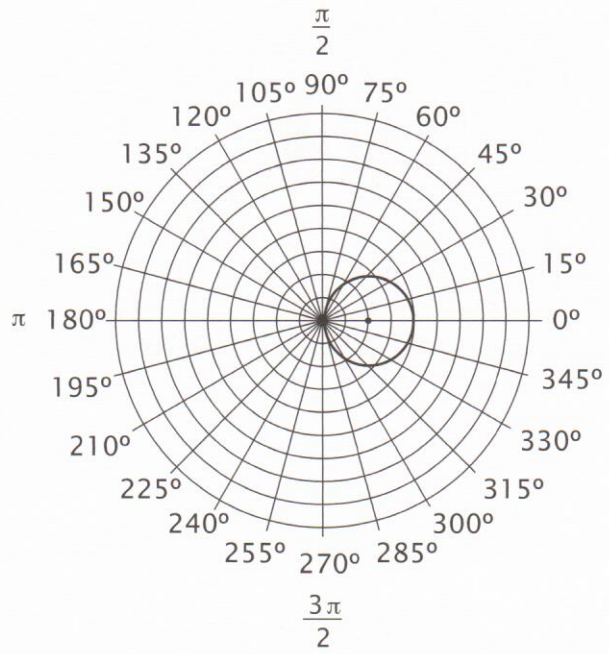
2. $r(\sin\theta - 2\cos\theta) = -1$

3. $r^2 \sin 2\theta = 3$

4. $r = \dfrac{2\sin\theta}{5\cos^2\theta - 1}$

To solve from the polar equation, use a chart.
Plot values for $r = 4 \cos \theta$.

θ	0°	30°	45°	60°	90°	120°	135°	150°	180°
cos θ	1	.87	.71	.5	0	–.5	–.71	–.87	–1
r	4	3.5	2.8	2	0	–2	–2.83	–3.5	–4



If the graph is labeled in radians, you may use your calculator to find the decimal value and the trig function, being sure you are in radian mode. It is probably easier to change radians to degrees, and then find the trig function for each value of θ.

Practice Problems 3

Change to a rectangular equation and graph the equation.

1. $r = 4$

2. $\theta = -\frac{3\pi}{4}$

3. $r = \frac{8}{2 \cos \theta - 3 \sin \theta}$

*4. $r = 3(1 + \cos \theta)$

*This is an unusual shape. Don't try to find the rectangular form.