Name:_____

9.3 Practice

$x = r\cos\theta$ $\quad y = r\sin\theta$ $\quad \tan\theta = \frac{y}{x}$ $\quad r = \pm\sqrt{x^2 + y^2}$ $\quad D = \sqrt{r_1^2 + r_2^2 - 2r_1 r_2\cos(\theta_2 - \theta_1)}$

Find the rectangular coordinates for each point with the given polar coordinates.

1. (6, 120°)

2. (–4, 45°)

3. $\left(4, \frac{\pi}{6}\right)$

Find two pairs of polar coordinates for each point with the given rectangular coordinates if $0 \le \theta < 2\pi$.

4. (2, 2)

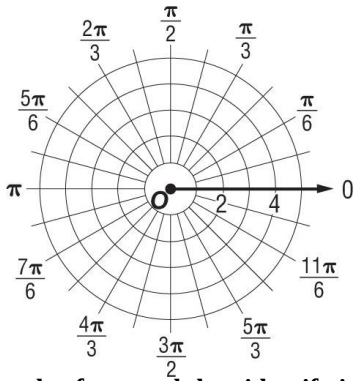
5. (2, –3)

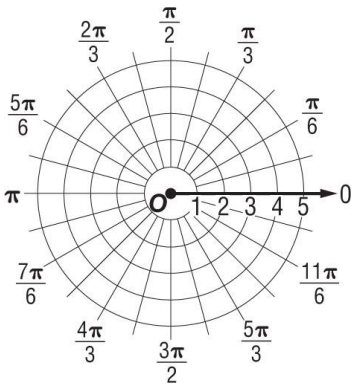
6. $\left(-3, \sqrt{3}\right)$

Identify the graph of each rectangular equation. Then write the equation in polar form. Support your answer by graphing the polar form of the equation.

7. $x^2 + y^2 = 9$

8. $y = 3$





Write each equation in rectangular form and then identify its graph. Support your answer by graphing the polar form of the equation.

9. $r = 4$

10. $r\cos\theta = 5$