NAME _____ DATE _____ PERIOD _____

Practice

Polar and Rectangular Coordinates

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

1. $(6, 120°)$

2. $(-4, 45°)$

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

4. $\left(0, \frac{13\pi}{3}\right)$

Find the polar coordinates of each point with the given rectangular coordinates. Use $0 \leq \theta < 2\pi$ and $r \geq 0$.

5. $(2, 2)$

6. $(2, -3)$

7. $(-3, \sqrt{3})$

8. $(-5, -8)$

Write each polar equation in rectangular form.

9. $r = 4$

10. $r \cos \theta = 5$

Write each rectangular equation in polar form.

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

12. $y = 3$

13. ***Surveying*** A surveyor records the polar coordinates of the location of a landmark as $(40, 62°)$. What are the rectangular coordinates?