Precalculus Extra practice Sec. 8.1
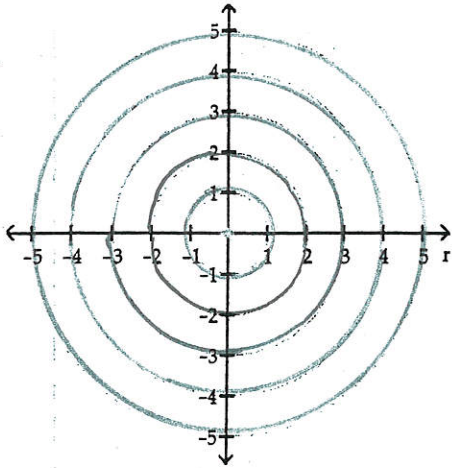
Name _____ Mod _____ .

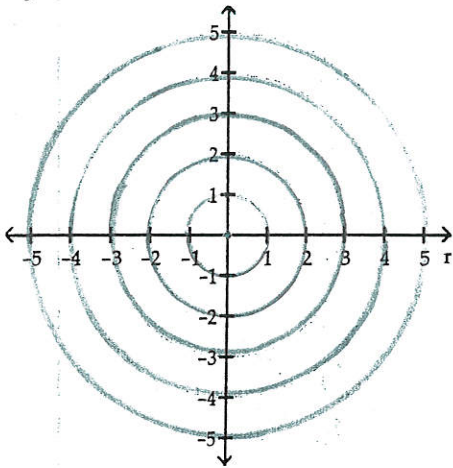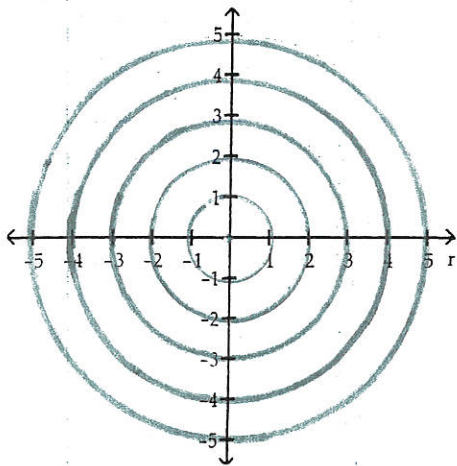**Plot the point given in polar coordinates.**

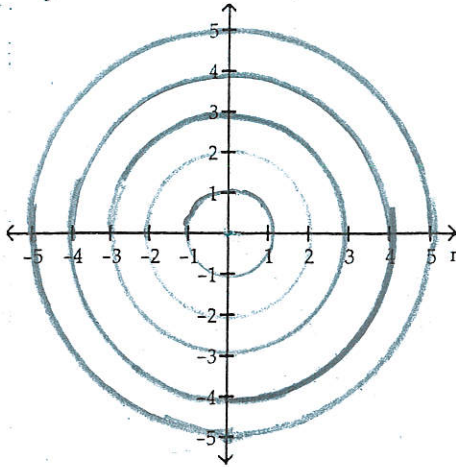1) $(-2, 45°)$

2) $\left(3, \dfrac{7\pi}{6}\right)$

3) $(2, 360°)$

4) $\left(-3, -\dfrac{\pi}{4}\right)$

4)

The polar coordinates of a point are given. Find the rectangular coordinates of the point.

5) $\left(5, -\dfrac{4\pi}{3}\right)$

5) _____

6) $(-3, 120°)$

6) _____

7) $\left(7, \dfrac{3\pi}{4}\right)$

7) _____

8) $(5, 180°)$

8) _____

9) $(4, 70°)$ Round the rectangular coordinates to two decimal places.

9) _____

The letters r and θ represent polar coordinates. Write the equation using rectangular coordinates (x, y).

10) $r = 1 + 2\sin\theta$

10) _____

11) $r = 2(\sin\theta - \cos\theta)$

11) _____

The rectangular coordinates of a point are given. Find polar coordinates for the point.

12) $(-4, 4)$

A) $\left(-4\sqrt{2}, -\dfrac{3\pi}{4}\right)$ B) $\left(4\sqrt{2}, -\dfrac{3\pi}{4}\right)$ C) $\left(-4\sqrt{2}, \dfrac{\pi}{4}\right)$ D) $\left(4\sqrt{2}, \dfrac{3\pi}{4}\right)$

12) _____

13) $(0, -4)$

A) $(4, 0)$ B) $\left(4, \dfrac{\pi}{2}\right)$ C) $\left(4, -\dfrac{\pi}{2}\right)$ D) $(4, \pi)$

13) _____

14) $(-3, 1.8)$ Round the polar coordinates to two decimal places, if necessary, with θ in radians.

A) $(-3.5, 1.03)$ B) $(3.5, -1.03)$ C) $(3.5, 2.6)$ D) $(3.5, 1.03)$

14) _____

The letters x and y represent rectangular coordinates. Write the equation using polar coordinates (r, θ).

15) $2x + 3y = 6$

15) _____

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