Unit 1.4 Day 2 – Polar Equations Name:_____

Converting and Rewriting Polar Equations

1. Predict the graph of $r = \csc\theta$, $0 \le \theta \le 2\pi$, and justify your prediction.

2. Find the rectangular coordinates of the point with polar coordinates.

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

b. $(3, 315°)$

c. $\left(-5, -\frac{\pi}{6}\right)$

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

a. (-5 , 12)

b. (3 , -3)

c. (-2 , $-2\sqrt{3}$)

4. Write the rectangular equations in polar form.

a. $x = 2$ b. $y = 2x$ c. $x^2 + y^2 = 81$

5. Write the polar equations in rectangular form.

a. $r = -8$ b. $\theta = \frac{\pi}{6}$ c. $r = 2\sin\theta$