

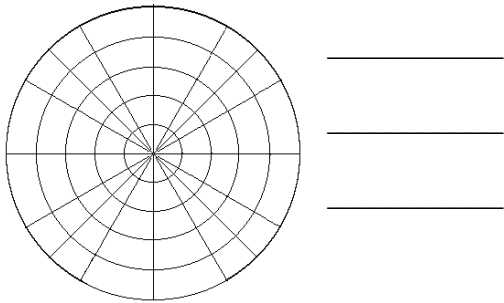
**7.03 Quiz Review WS #2**

Date \_\_\_\_\_

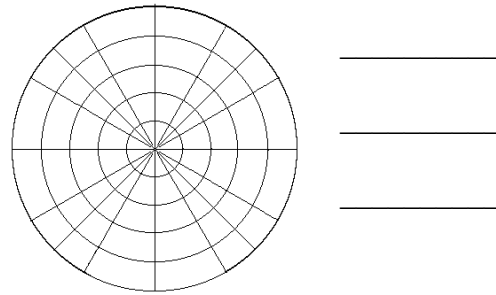
**Polar Coordinates, Equations, and Distance**

1) Graph each point on the polar grid. Find three other pairs of polar coordinates that name the point  
 if  $-360^\circ \leq \theta \leq 360^\circ$  if  $-2\pi \leq \theta \leq 2\pi$

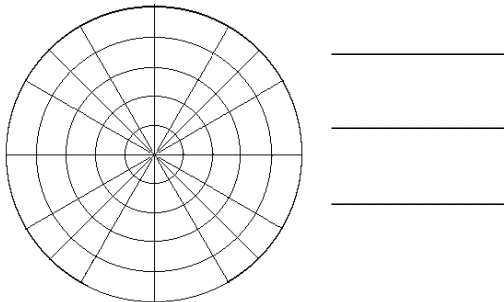
a)  $A(-3, -60^\circ)$



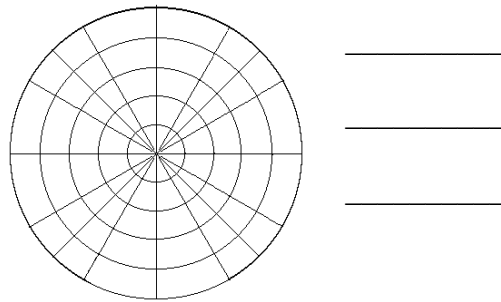
b)  $B\left(4, \frac{5\pi}{6}\right)$



c)  $C(2, 135^\circ)$



d)  $D\left(-2, -\frac{4\pi}{3}\right)$



2) Given the polar distance formula between two points  $A(r_1, \theta_1)$  and  $B(r_2, \theta_2)$ :

$$AB = \sqrt{r_1^2 + r_2^2 - 2r_1r_2 \cos(\theta_2 - \theta_1)}, \text{ find the distance between } A \text{ and } B.$$

a)  $A(2, 120^\circ)$   $B(-4, 45^\circ)$

b)  $A\left(3, \frac{5\pi}{3}\right)$   $B\left(-4, -\frac{\pi}{4}\right)$

a)  $AB =$  \_\_\_\_\_

b)  $AB =$  \_\_\_\_\_

3) Find the rectangular coordinates for each point with the given polar coordinates.  
 Answer in exact form.

a)  $(-2, -\frac{4\pi}{3})$

b)  $(5, \frac{5\pi}{4})$

a) \_\_\_\_\_

b) \_\_\_\_\_

c)  $(3, \frac{11\pi}{6})$

d)  $(-5, -\frac{7\pi}{4})$

c) \_\_\_\_\_

d) \_\_\_\_\_

4) Find four unique polar coordinates for each point given as rectangular coordinates.  
 Use  $-360^\circ \leq \theta \leq 360^\circ$ . Round to the nearest thousandths.

a) (5, -3)

b) (-4, 7)

a) \_\_\_\_\_

b) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Use  $-2\pi \leq \theta \leq 2\pi$ . Round to the nearest thousandths.

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

d) (-4, -3)

c) \_\_\_\_\_

d) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_