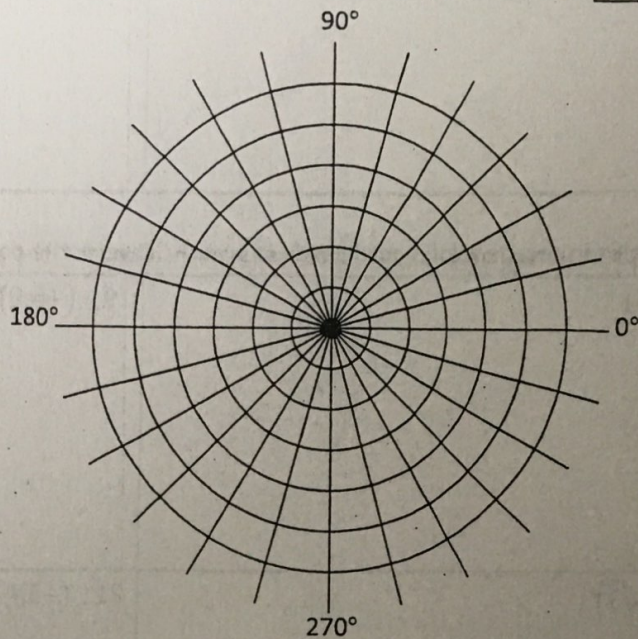


## Section 10.7 - Polar Coordinates

I. Graph and label each point.

1.  $A(3, 30^\circ)$
2.  $B(5, 240^\circ)$
3.  $C(1, 135^\circ)$
4.  $D(2, -60^\circ)$
5.  $E(-2, 45^\circ)$
6.  $F(-4, 300^\circ)$
7.  $G(-5, -45^\circ)$
8.  $H(-2, 0^\circ)$
9.  $I(0, -270^\circ)$

II. State three other pairs of polar coordinates for each point where  $-360^\circ < \theta < 360^\circ$ . Show work.

10.  $(-2, 150^\circ)$

11.  $(5, -60^\circ)$

III. State three other pairs of polar coordinates for each point where  $-2\pi < \theta < 2\pi$ . Show work.

12.  $(4, \frac{\pi}{5})$

13.  $(-3, \frac{2\pi}{3})$

IV. A point in polar coordinates is given. Convert the point to rectangular coordinates. Show work.

14.  $(3, \frac{\pi}{2})$

15.  $(-1, \frac{5\pi}{4})$

16. $\left(2, \frac{7\pi}{6}\right)$	17. $(-2.5, 1.1)$ Use a calculator.
--------------------------------------	--

V. A point in rectangular coordinates is given. Convert the point to polar coordinates. Show work.

18. $(-3, -3)$	19. $(-6, 0)$
20. $(4, -4\sqrt{3})$	21. $(-3, 4)$

VI. Convert the rectangular equation to polar form.

22. $x^2 + y^2 = 9$	23. $y = 4$	24. $y = x$
---------------------	-------------	-------------

VII. Convert each polar equation to rectangular form.

25. $r = -5\sec\theta$	26. $r = 4\sin\theta$	26. $r = 4$
------------------------	-----------------------	-------------