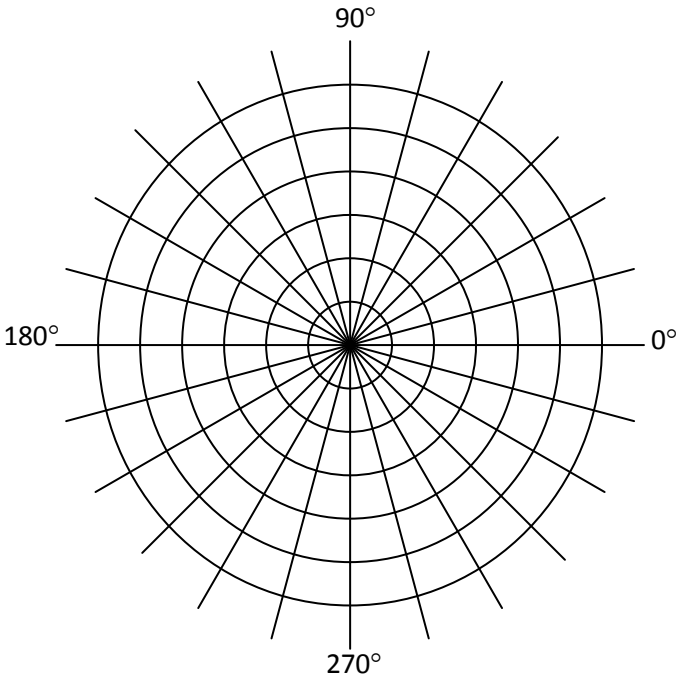
Pre-Calculus Worksheet Name: _____

Section 10.7 – Polar Coordinates Period: ____

I. Graph and label each point.



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

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

10. $\left(-2,150^\circ\right)$	11. $\left(5,-60^\circ\right)$

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

12. $\left(4,\frac{\pi}{5}\right)$	13. $\left(-3,\frac{2\pi}{3}\right)$

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

14. $\left(3,\frac{\pi}{2}\right)$	15. $\left(-1,\frac{5\pi}{4}\right)$

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. $\left(4, -4\sqrt{3}\right)$	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. $r = 4$