

## Chapter 10 Lab

Plot the point  $(4, \frac{\pi}{6})$  and find other polar coordinates  $(r, \theta)$  of the point for which:

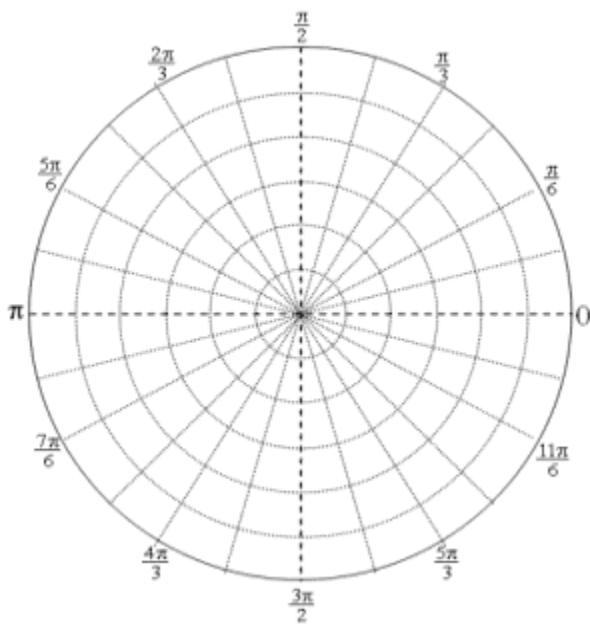
(a)  $r > 0, -2\pi \leq \theta < 0$

(b)  $r < 0, 0 \leq \theta < 2\pi$

(c)  $r > 0, 2\pi \leq \theta < 4\pi$

Transform the polar equation to an equation in rectangular coordinates. Then graph the equation.

$$r = 4 \sin \theta$$



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Write the complex number in polar form. Express the angle in degrees, rounded to the nearest tenth, if necessary.

$$z = 2 - 2i$$

Use De Moivre's Theorem. Write the expression in the standard form  $a + bi$ .

$$\sqrt{2}(\cos 15^\circ + i \sin 15^\circ)^3$$

Find the Magnitude of  $v = -5i + 12j$

For  $P = (-3, 2)$   $Q = (6, 5)$

Find the position Vector  $\overrightarrow{PQ}$

Find  $\vec{P} + \vec{Q}$

Find  $\vec{P} \cdot \vec{Q}$

Find  $\widehat{PQ}$