

6.3 Polar Coordinates

Take Home Notes

Idea: Instead of coordinates, like (x,y) , representing “how far right you go” and then “how far up you go”, what if they represented “which direction you point” and “how far out you go”.

Notation: (r, θ)

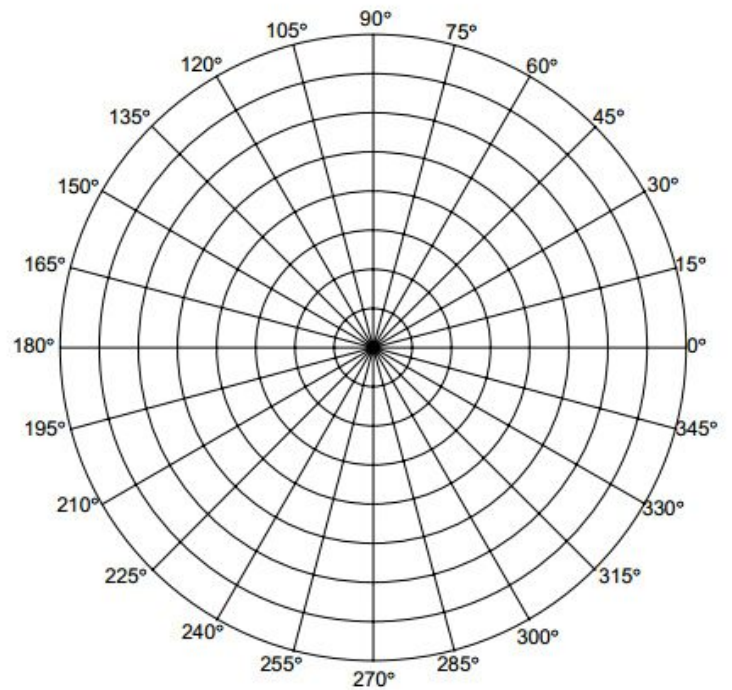
Practice

Plot these points on polar coordinates:

$(2, 135^\circ)$

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

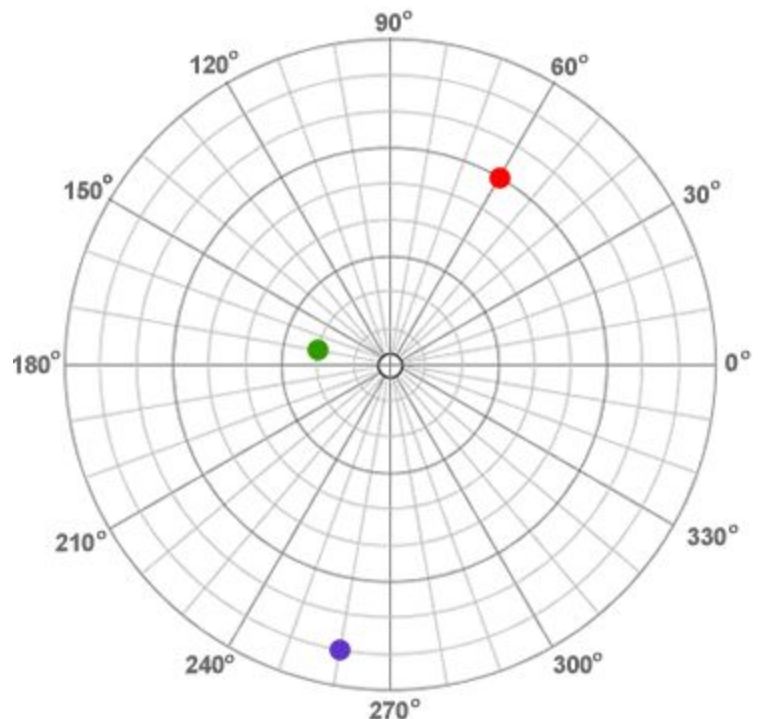
$(-1, -\frac{\pi}{4})$



Find these points:
Red (top right)

Green (center left)

Purple (bottom)



Converting Between Polar Coordinates and Rectangular Coordinates

Memorize formulas *or* draw triangles

Find the rectangular coordinate for these points in polar coordinate form:

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

$$(-8, \frac{\pi}{3})$$

Find the polar coordinates for these points in rectangular coordinate form:

$$(-1, \sqrt{3})$$

$$(1, -\sqrt{3})$$

Formulas you could memorize (I don't advise it!)

More practice: pg 672, #1-20, 21-26, 27-32; pg 673, #33-48;

*pg 673, #49-74

*I haven't showed you how to do this last bit yet. But that doesn't mean you can't do it!

