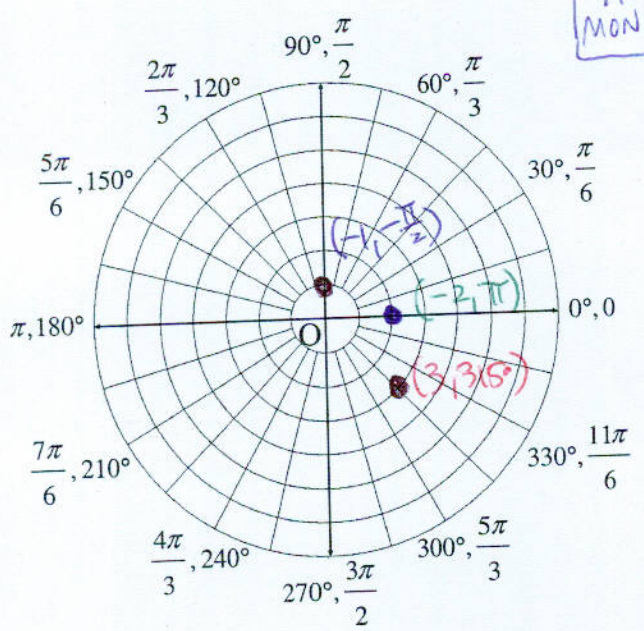


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6.3 Polar Coordinates

→ plot a point
 → Coordinate: (r, θ)
 radius, # circles from the center (origin)
 angle: $\theta > 0 \rightarrow$ ccw
 $\theta < 0 \rightarrow$ cw

"the pole"



ex 1) Plot $(3, 315^\circ)$

ex 2) Plot $(-2, \pi)$

→ go to π , but go backwards for the radius.

ex 3) Plot $(-1, -\frac{\pi}{2})$

Horizontal Axis - Polar axis

4 ways to represent every point...

ex 4) $(4, 60^\circ)$ ccw

cw $\rightarrow 60^\circ - 360^\circ = -300^\circ \rightarrow (4, -300^\circ)$
 $(r, \theta - 360^\circ)$

ccw $\rightarrow 60^\circ + 180^\circ = 240^\circ \rightarrow (-4, 240^\circ)$
 $(-r, \theta + 180^\circ)$

cw $\rightarrow 60^\circ - 180^\circ = -120^\circ \rightarrow (-4, -120^\circ)$
 $(-r, \theta - 180^\circ)$

ex 5) $(-5, \frac{5\pi}{4})$ $(1 + \frac{1}{4})\pi$

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

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

$(-5, -\frac{3\pi}{4})$

