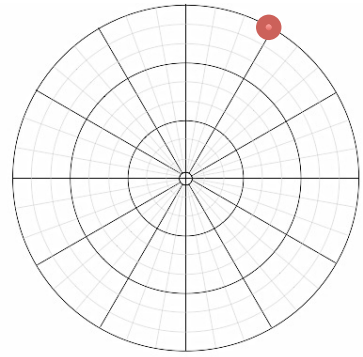
Chapter 9 Review

(1) Graph the point $H\left(-1.5, \frac{7\pi}{6}\right)$.

(2) List four polar coordinates that represent the point on the grid below given $-2\pi \leq \theta \leq 2\pi$.



(3) Sketch the polar equation $\theta = -\frac{13\pi}{6}$

(4) Find the distance between the points with the polar coordinates $(3, 70°)$ and $(5, 120°)$.

(5) Sketch $r = \frac{1}{5}\theta$ using your graphing calculator. Identify the type of curve (circle, limacon, cardioid, lemniscate, rose, or spiral of Archimedes) it represents.

(6) Sketch $r = 3 + 3sin\theta$ using your graphing calculator. Identify the type of curve (circle, limacon, cardioid, lemniscate, rose, or spiral of Archimedes) it represents

(7) Find the polar coordinates of $(-2, -5)$. Use $0 \leq \theta < 2\pi$ and $r \geq 0$.

(8) Find the rectangular coordinates of $(2.5, 250°)$.

(9) Write $y = 2$ in polar form.

(10) Write $r = -\sec\theta$ in rectangular form.

(11) Simplify i^{-6}

(12) Simplify $(2 + 3i) + (-6 + i)$

(12) Simplify $(-2 + i)^2$

(13) Simplify $\frac{i}{1+2i}$

(14) Graph $-2 - i$, then find its absolute value.

(15) Express $2 - 2i$ in polar form.

(16) Rewrite in rectangular form.

$4\left(\cos\frac{\pi}{3} + i\sin\frac{\pi}{3}\right)$