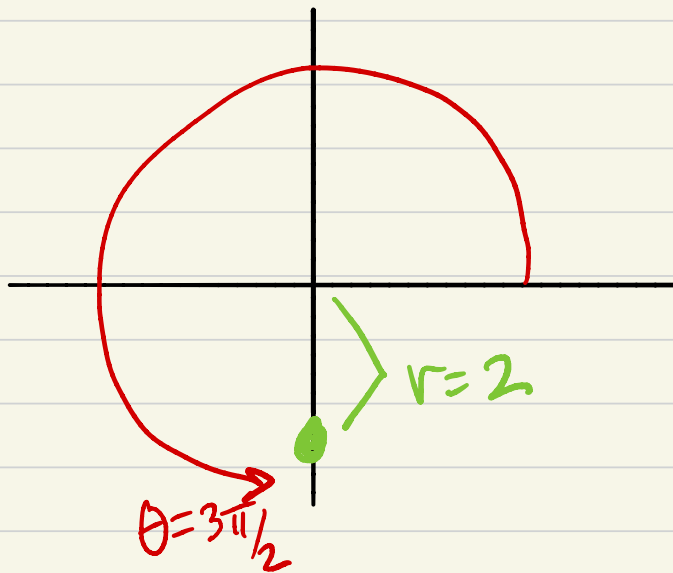


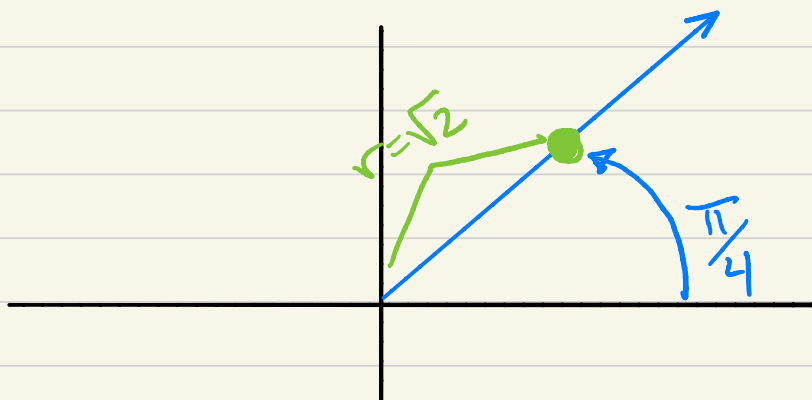
Homework 21 Final Answers

Section 10.3

3a. $(x, y) = (0, -2)$



3b. $(x, y) = (1, 1)$



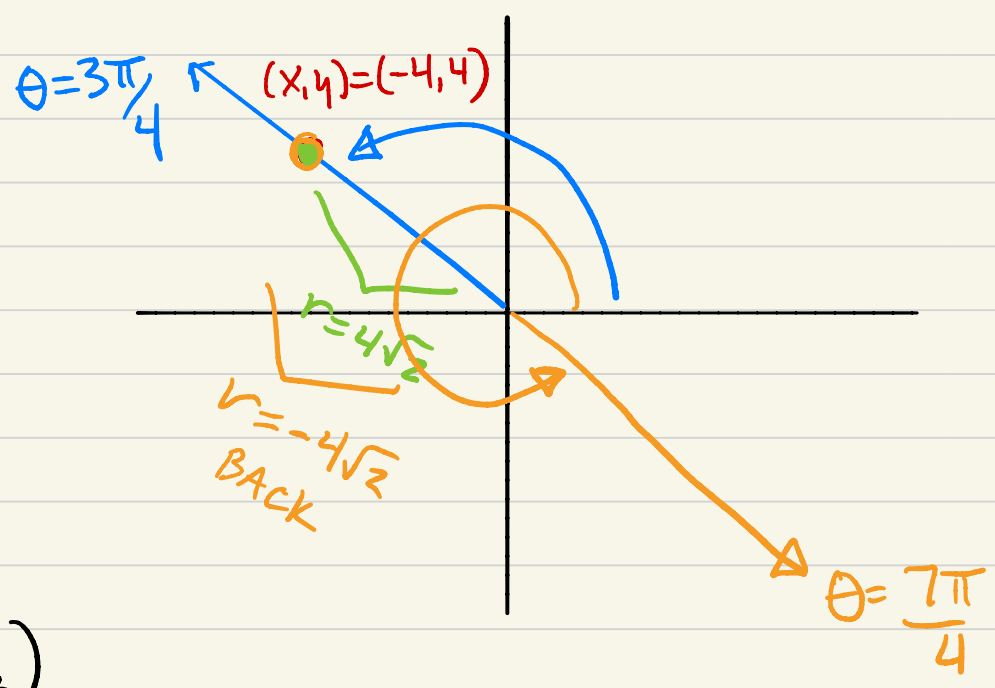
3c. $(x, y) = \left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$



5a. (i) $(4\sqrt{2}, \frac{3\pi}{4}) \leftarrow r > 0$
 case

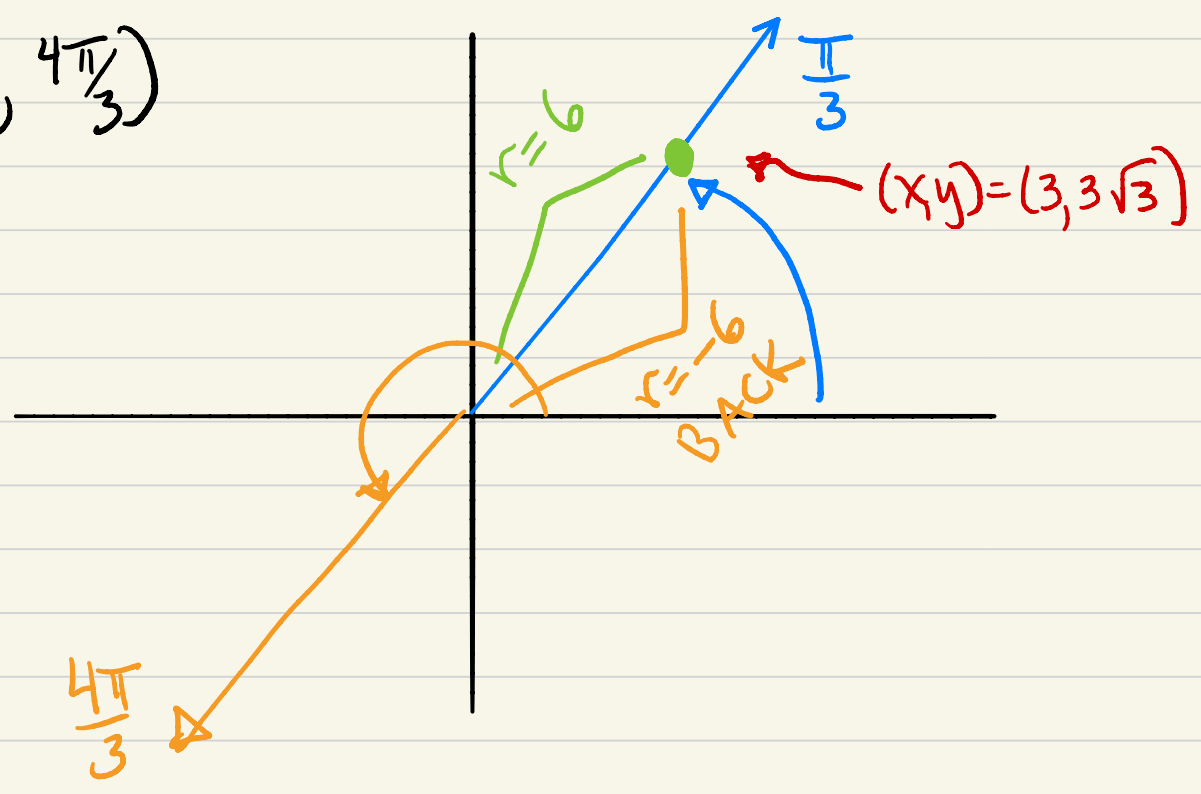
(ii) $(-4\sqrt{2}, \frac{7\pi}{4}) \leftarrow r < 0$
 case

Keep $0 \leq \theta \leq 2\pi$

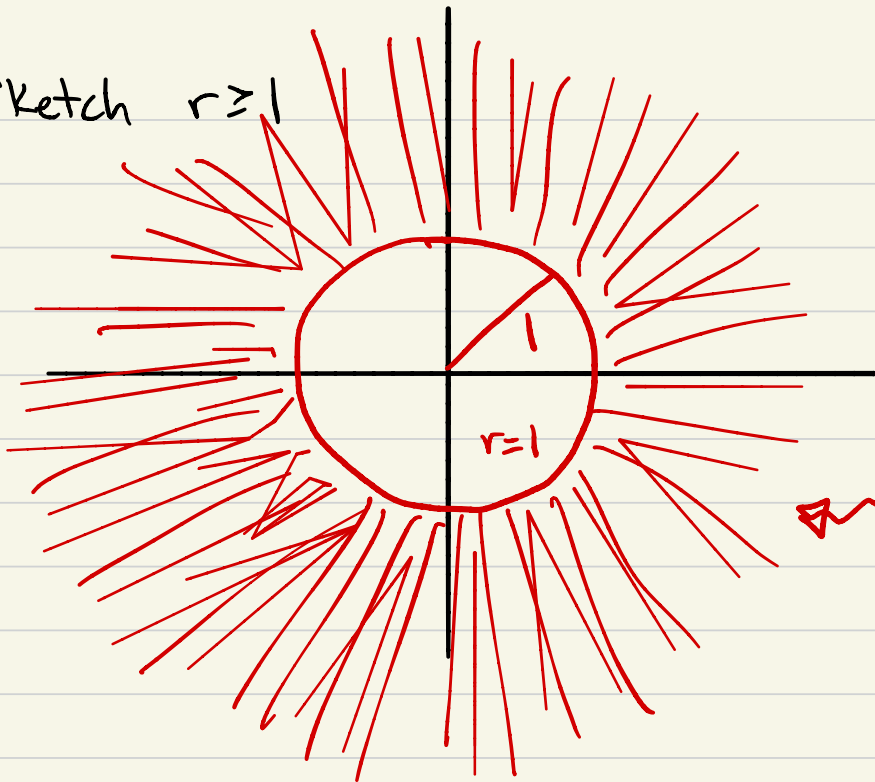


5b. (i) $(6, \frac{\pi}{3})$

(ii) $(-6, \frac{4\pi}{3})$

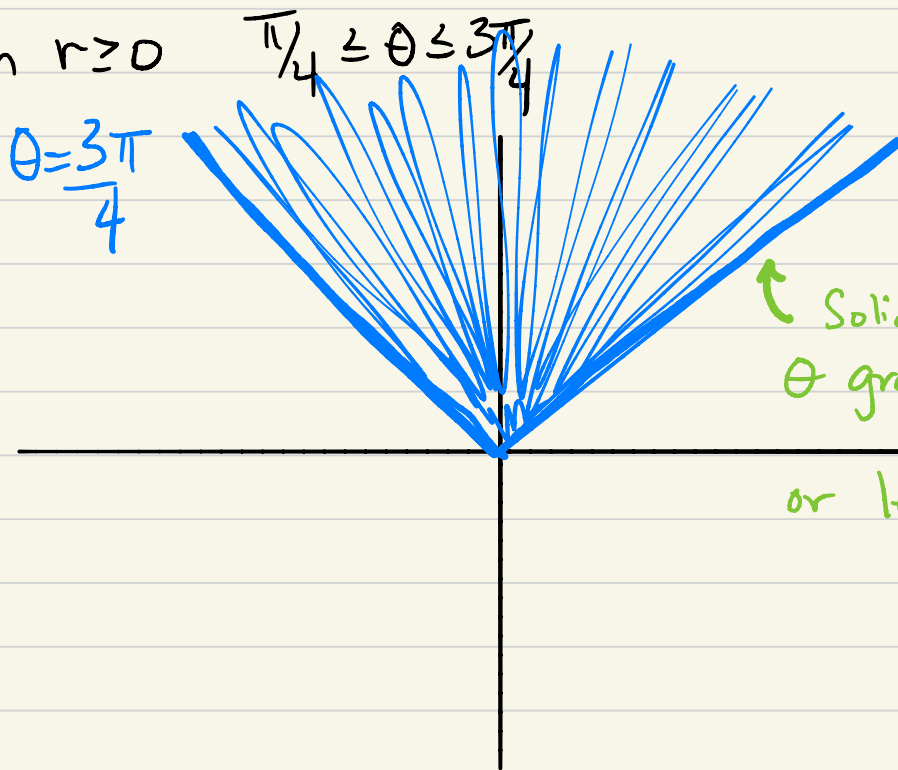


7. Sketch $r \geq 1$



Everything Shaded
outside (and including)
Circle $r=1$

9. Sketch $r \geq 0$

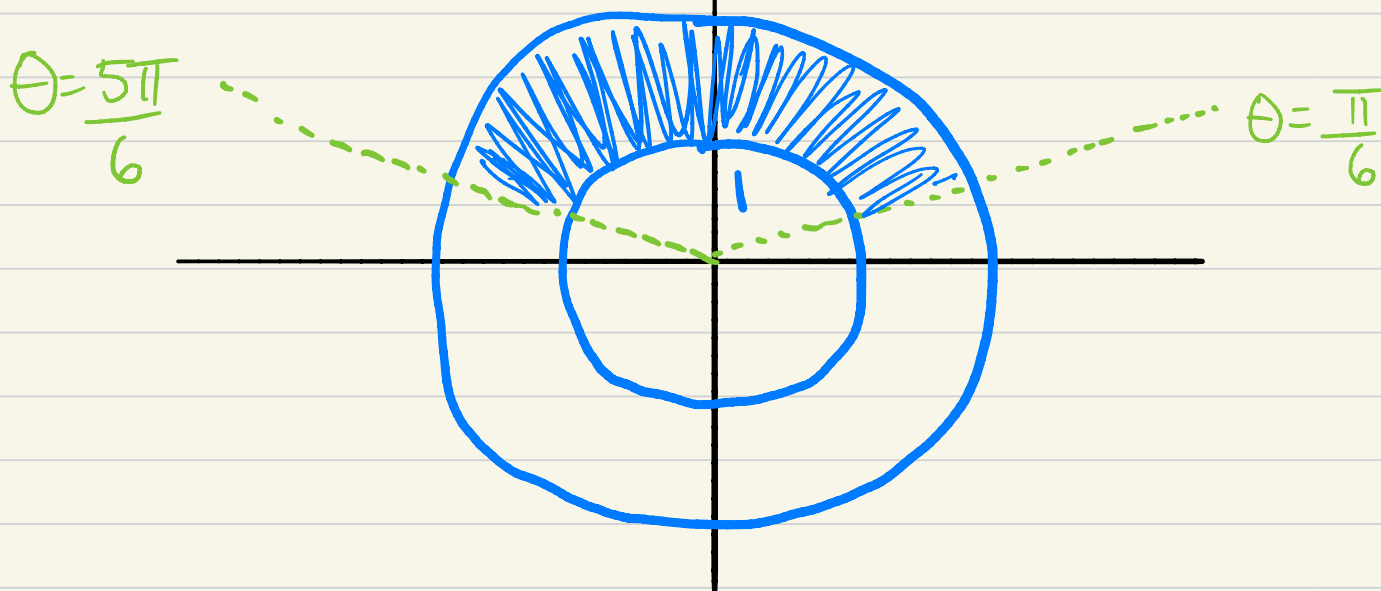


Solid Lines because
 θ greater or equal
or less than or equal

10. Sketch $1 \leq r \leq 3$ $\frac{\pi}{6} < \theta < \frac{5\pi}{6}$

inclusive

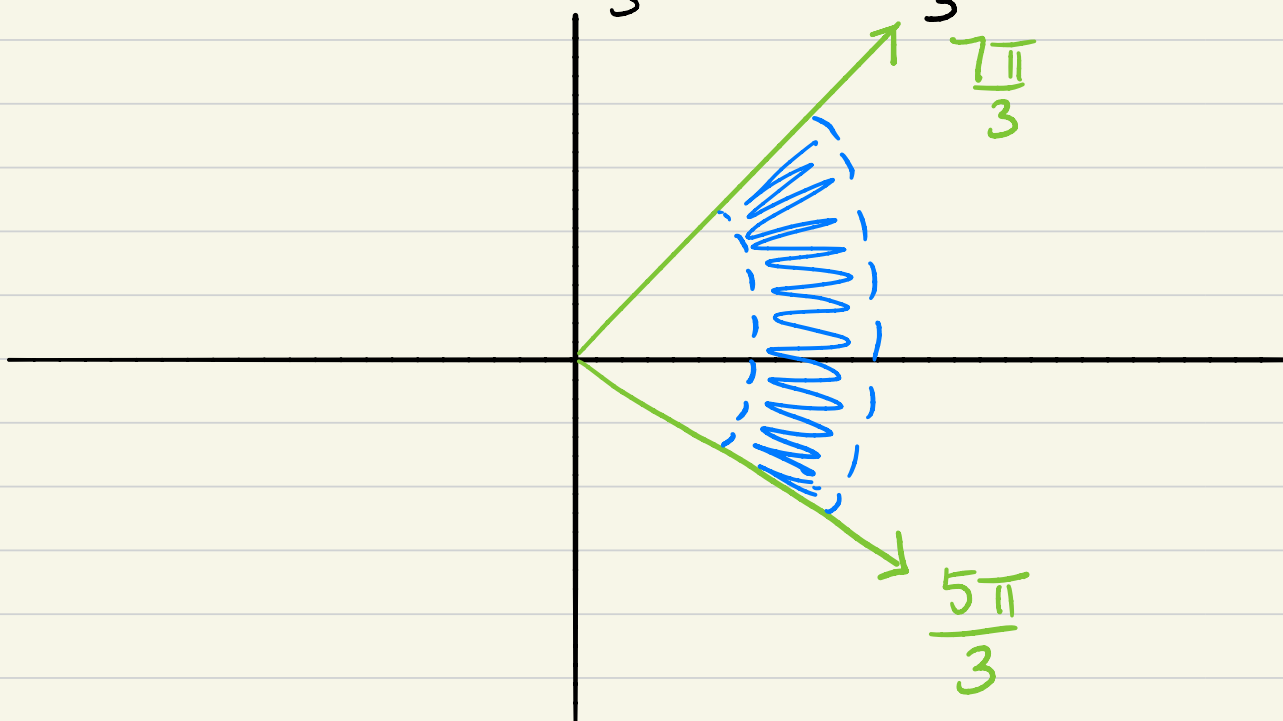
not inclusive



11. Sketch $2 < r < 3$ $\frac{5\pi}{3} \leq \theta \leq \frac{7\pi}{3}$

not inclusive

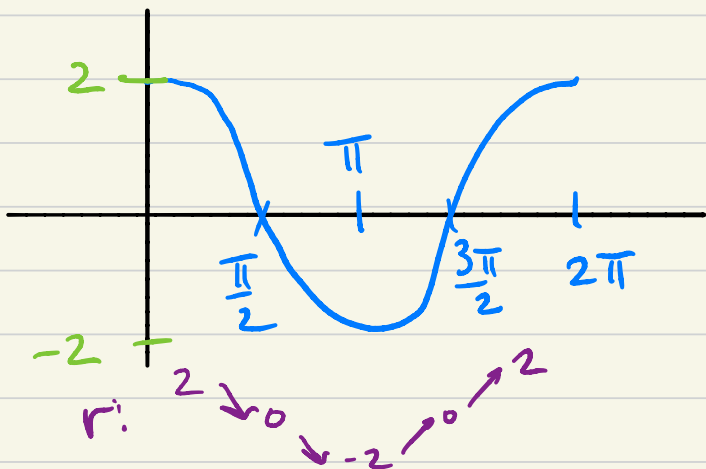
inclusive



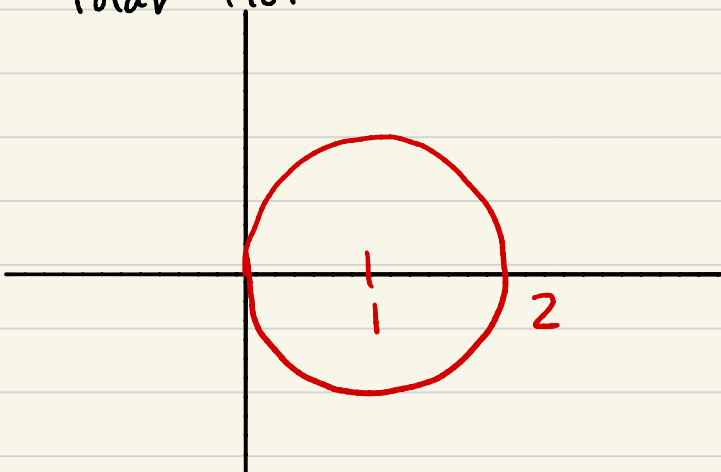
Plus Q: A. $r = 2\cos\theta$

Show Both.

Cartesian Plot

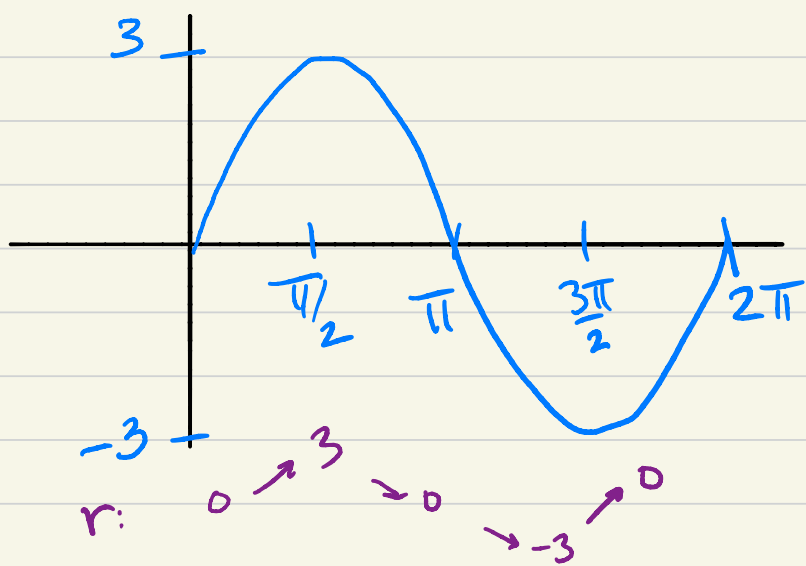


Polar Plot

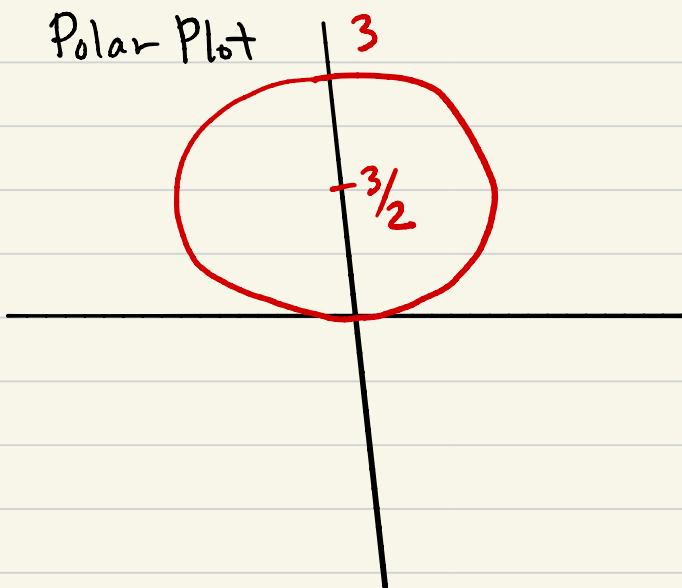


B. $r = 3\sin\theta$

Cartesian Plot

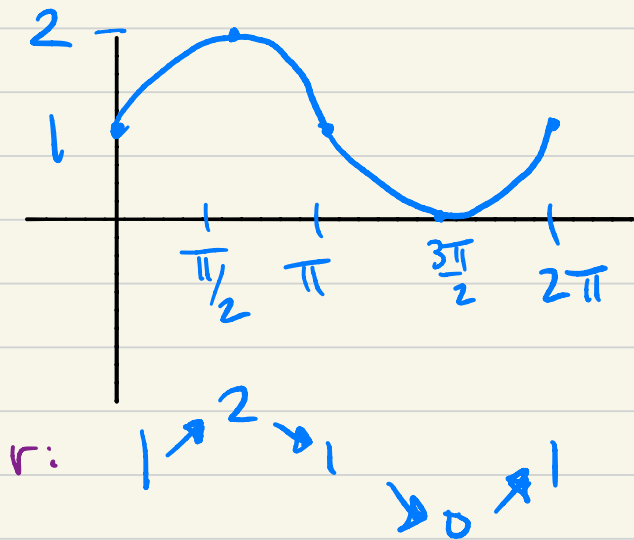


Polar Plot

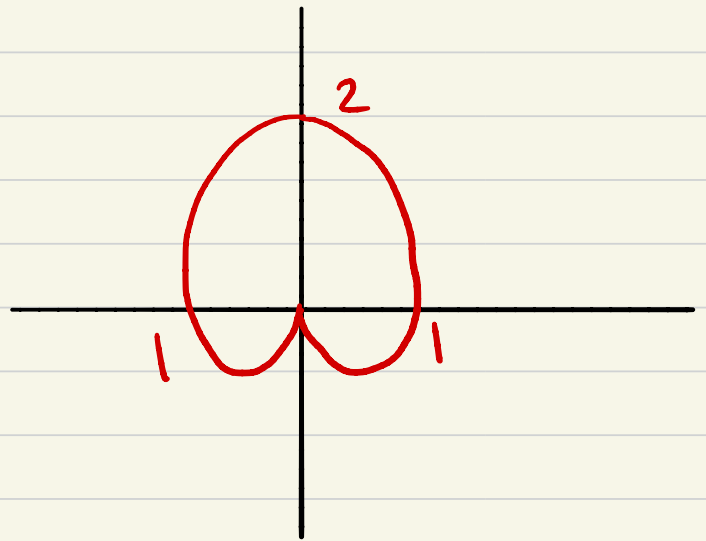


C. $r = 1 + \sin\theta$

Cartesian Plot

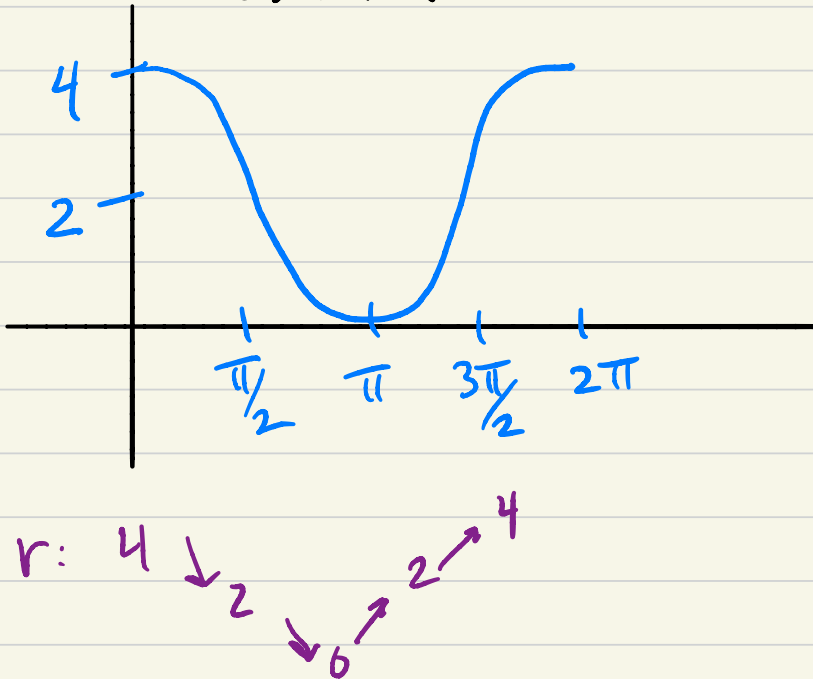


Polar Plot

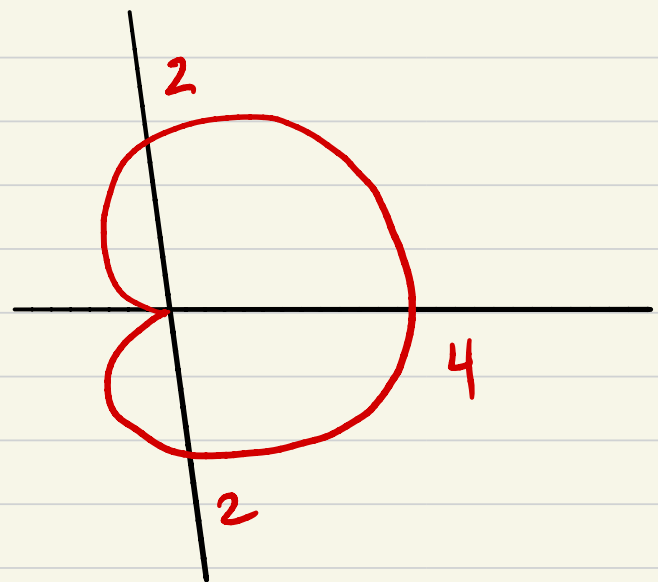


D. $r = 2 + 2\cos\theta$

Cartesian Plot

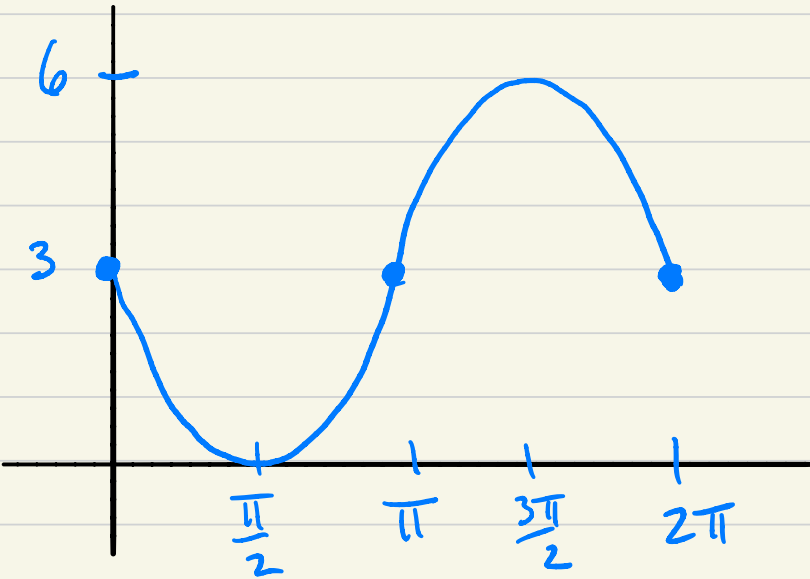


Polar Plot



E. $r = 3 - 3\sin\theta$

Cartesian Plot



Polar Plot

