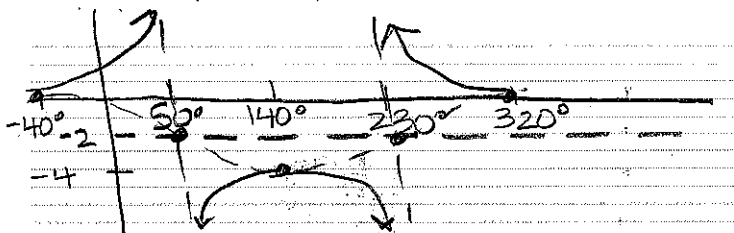


Warmup Sec & Csc

Warm-up:

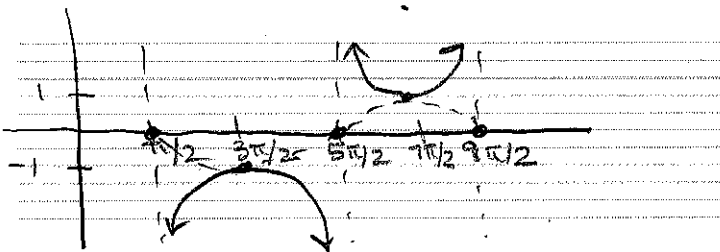
Graph the following functions. State the period, domain and range.

1. $y = 2\sec(\theta + 40^\circ) - 2$ COS



$$\begin{aligned} \theta + 40 &= 0 & \theta + 40 &= 360^\circ \\ \theta &= -40^\circ & \theta &= 320^\circ \\ Pd &= 320 - (-40) = 360^\circ \\ D &: [-40^\circ, 50^\circ) \cup (50^\circ, 230^\circ) \cup \\ & \quad (230^\circ, 320^\circ] \\ R &: (-\infty, -4] \cup [0, \infty) \end{aligned}$$

2. $y = -\csc\left(\frac{x}{2} - \frac{\pi}{4}\right)$ SIN



$$\begin{aligned} \frac{x}{2} - \frac{\pi}{4} &= 0 & \frac{x}{2} - \frac{\pi}{4} &= 2\pi + \frac{\pi}{4} \\ \frac{x}{2} &= \frac{\pi}{4} & \frac{x}{2} &= \frac{9\pi}{4} \\ x &= \frac{\pi}{2} & x &= \frac{9\pi}{2} \\ D &: \left(\frac{\pi}{2}, \frac{5\pi}{2}\right) \cup \left(\frac{5\pi}{2}, \frac{9\pi}{2}\right) \\ R &: (-\infty, -1] \cup [1, \infty) \\ Pd &= \frac{9\pi}{2} - \frac{\pi}{2} = \frac{8\pi}{2} = 4\pi \end{aligned}$$