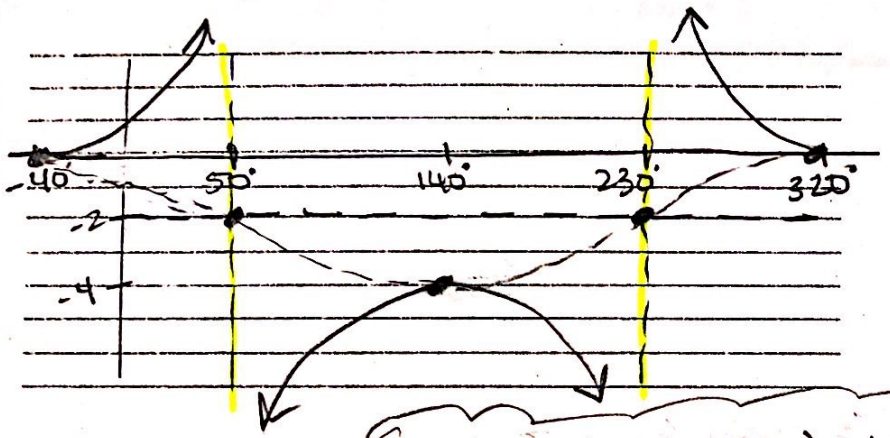
**Warm-up:**
Graph the following functions. State the domain and range of each.

1. $y = 2\sec(\theta + 40°) - 2$




- VS = -2
- amp = 2
- graph Cos

$\theta + 40 = 0°$ $\theta + 40 = 360°$

$\theta = -40°$ $\theta = 320°$

Period = $320 - -40 = 360°$

D: $[-40, 50) \cup (50, 230) \cup (230, 320]$

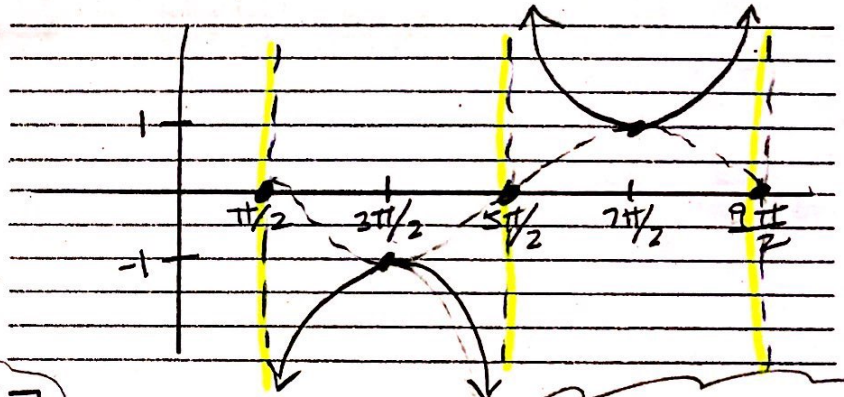
R: $(-\infty, -4] \cup [0, \infty)$

x-axis $\frac{320° + -40°}{2} = 140°$

$\frac{140° + -40}{2} = 50°$

$\frac{140° + 320°}{2} = 230°$

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




- reflect
- amp 1
- graph Sin

$\frac{x}{2} - \frac{\pi}{4} = 0$ $\frac{x}{2} - \frac{\pi}{4} = 2\pi$

(2) $\frac{x}{2} = \frac{\pi}{4}$ (2) $\frac{x}{2} = \frac{8\pi}{4} + \frac{\pi}{4}$

$x = \frac{\pi}{2}$ (2) $\frac{x}{2} = \frac{9\pi}{4}$ (2)

$x = \frac{9\pi}{2}$

Period = $\frac{9\pi}{2} - \frac{\pi}{2} = \frac{8\pi}{2} = 4\pi$

D: $(\frac{\pi}{2}, \frac{5\pi}{2}) \cup (\frac{5\pi}{2}, \frac{9\pi}{2})$

R: $(-\infty, -1] \cup [1, \infty)$