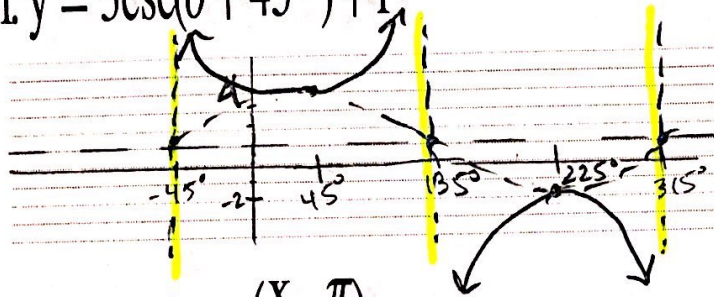


Warm-up #2:

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

1. $y = 3\csc(\theta + 45^\circ) + 1$



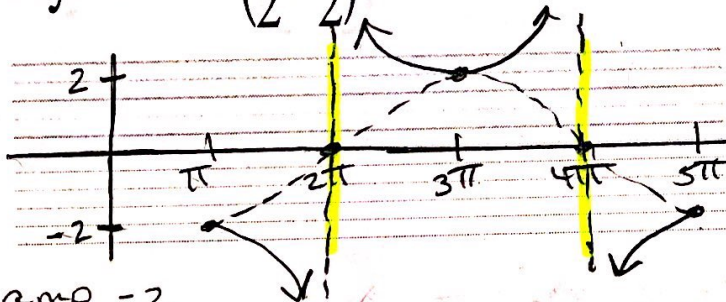
- amp 3
- vs 1
- graph sin

$$\begin{aligned} \theta + 45^\circ = 0^\circ & \quad \theta + 45^\circ = 360^\circ \\ \theta = -45^\circ & \quad \theta = 315^\circ \end{aligned}$$

$$\frac{315^\circ - (-45^\circ)}{2} = 135^\circ$$

$D: (-45^\circ, 135^\circ) \cup (135^\circ, 315^\circ)$
 $R: (-\infty, -2] \cup [4, \infty)$
 Period: $315^\circ - (-45^\circ) = 360^\circ$

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



- amp -2
- vs: none
- graph cos
- reflect!

$$\begin{aligned} \frac{x}{2} - \frac{\pi}{2} = 0 & \quad \frac{x}{2} - \frac{\pi}{2} = 2\pi \\ (2) \frac{x}{2} = \frac{\pi}{2} & \quad \frac{x}{2} = \frac{4\pi}{2} + \frac{\pi}{2} \\ \boxed{x = \pi} & \quad (4) \frac{x}{2} = \frac{5\pi}{2} \\ & \quad \boxed{x = 5\pi} \end{aligned}$$

$D: [\pi, 2\pi) \cup (2\pi, 4\pi) \cup (4\pi, 5\pi]$
 $R: (-\infty, -2] \cup [2, \infty)$
 Period: $5\pi - \pi = 4\pi$