

Math-19 Section 1

Homework #8 Solutions

Problem

Sketch one complete cycle of each of the following graphs. Be sure to identify all key points, amplitude, and vertical asymptotes (as is appropriate for each graph).

1. $y = -5 \sin(4\pi t + 1)$

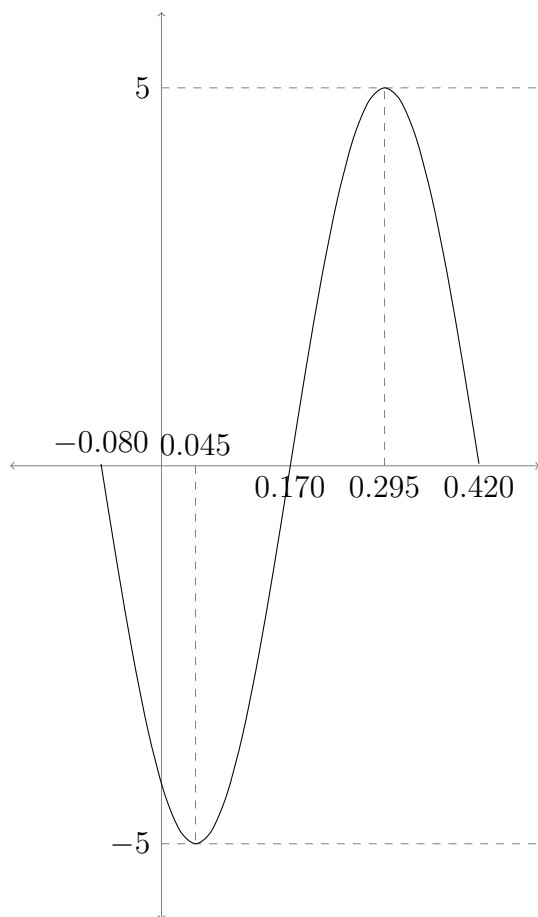
$$y = -5 \sin \left[4\pi \left(t + \frac{1}{4\pi} \right) \right] \quad A = 5 \text{ (with vertical reflection)}$$

$$\omega = 4\pi$$

$$P = \frac{2\pi}{4\pi} = \frac{1}{2}$$

$$b = \frac{1}{4\pi} \approx 0.08 \text{ (left)}$$

key points at $x = -0.080, 0.045, 0.170, 0.295, 0.420$



2. $y = -5 \tan(4\pi t + 1)$

$$y = -5 \tan \left[4\pi \left(t + \frac{1}{4\pi} \right) \right] \quad \omega = 4\pi$$

$$P = \frac{\pi}{4\pi} = \frac{1}{4}$$

$$b = \frac{1}{4\pi} \approx 0.08 \text{ (left)}$$

$$VA : x = -0.205, 0.045$$

