GRAPHING TRIG PRACTICE

① $y = 4\sin(12(x + \frac{\pi}{8})) + 2$

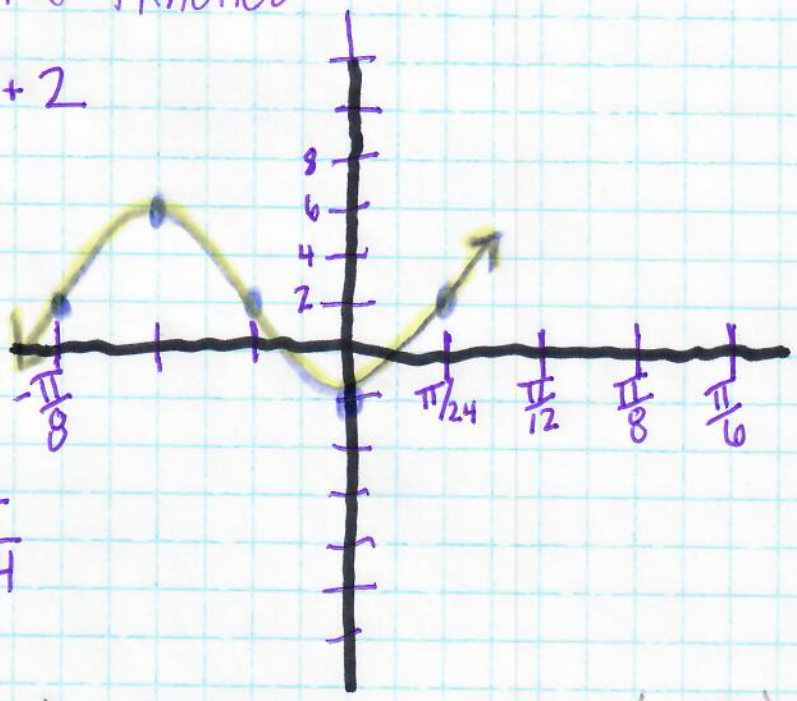
amp: 4

period: $\frac{2\pi}{12} = \frac{\pi}{6}$

p.s. left $\pi/8$

v.s. up 2

intervals: $\frac{\pi}{6} \div 4 = \frac{\pi}{24}$



* start at (0,0). multiply zero by amplitude (still 0) move left $\pi/8$ and up 2. (starting point)

The pattern for sine when $a > 0$ is ↑↓↓↑

use amplitude for max & min. *

② $y = -\frac{1}{5}\sin(\frac{2}{5}(x - \frac{5\pi}{2})) + \frac{2}{5}$

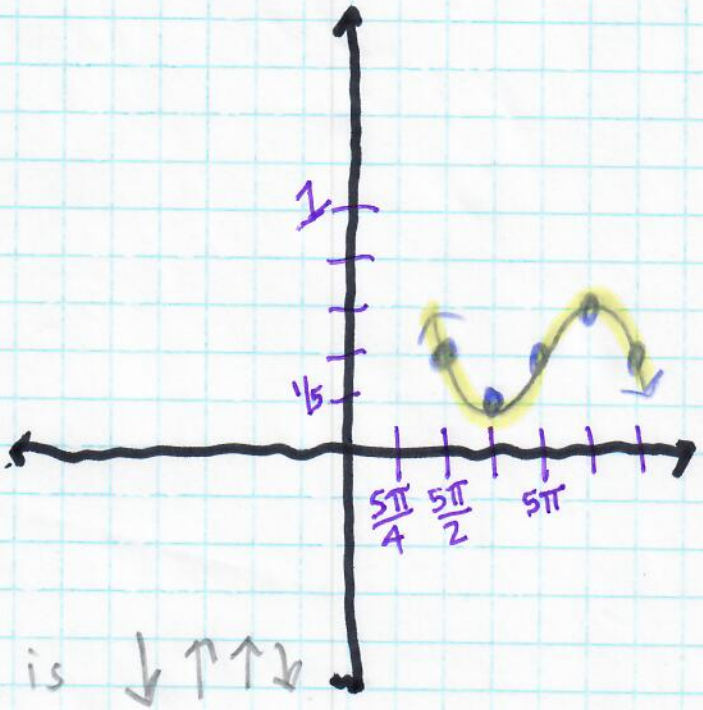
amp: 1/5

period $\frac{2\pi}{2/5} = 5\pi$

p.s. right $\frac{5\pi}{2}$

vs up $\frac{2}{5}$

intervals: $\frac{5\pi}{4}$



pattern when $a < 0$ is ↓↑↑↓

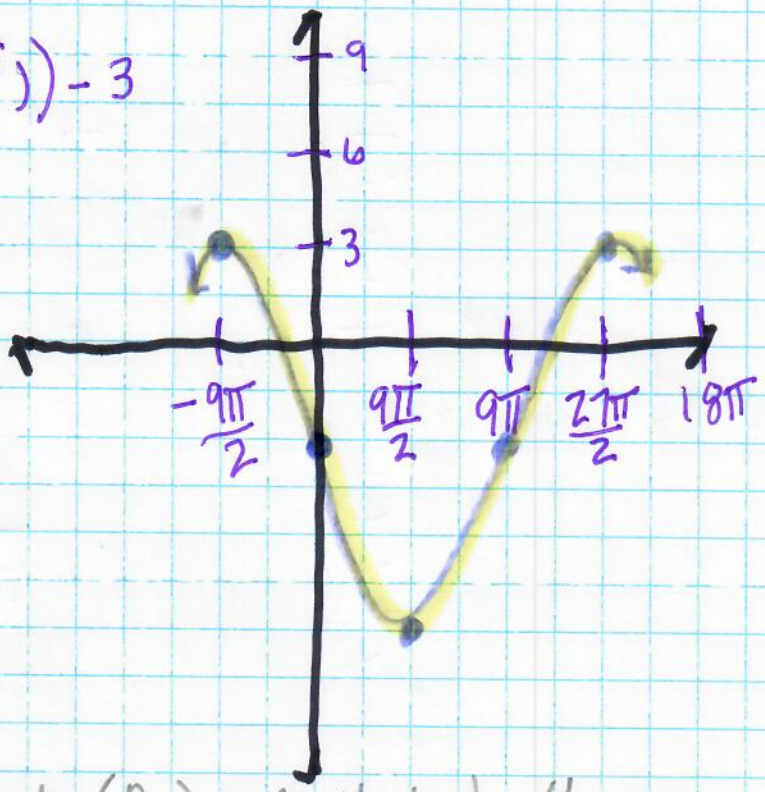
③ $y = 6\cos\left(\frac{1}{9}\left(x + \frac{9\pi}{2}\right)\right) - 3$

amp: 6

period: 18π

ps: left $9\pi/2$

vs: down 3



★ for cosine, start at (0,1). Multiply by the amp (6), then move left and down.

4. $y = -2\cos\left(3\left(x - \frac{\pi}{2}\right)\right) - 2$

amp: 2

period: $2\pi/3$

p.s. right $\pi/2$

vs down 2