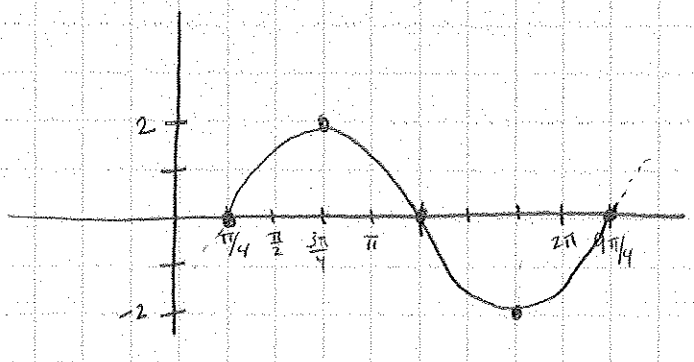
GRAPHING WS #2

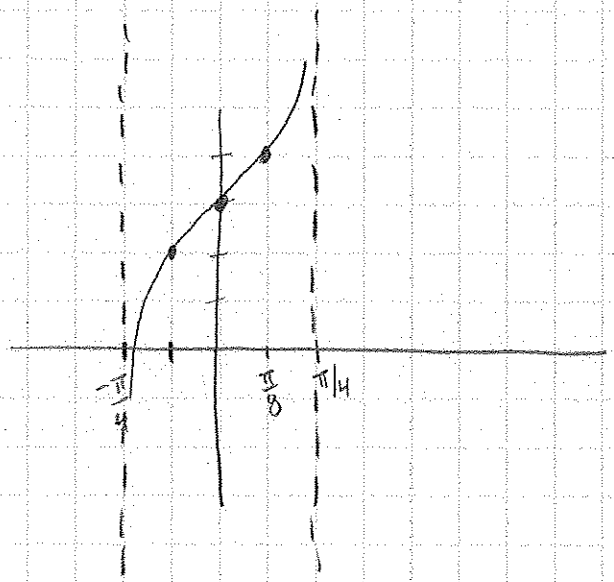
① $y = 2\sin(x - \pi/4)$

Amp = 2
Period = 2π
Right $\pi/4$



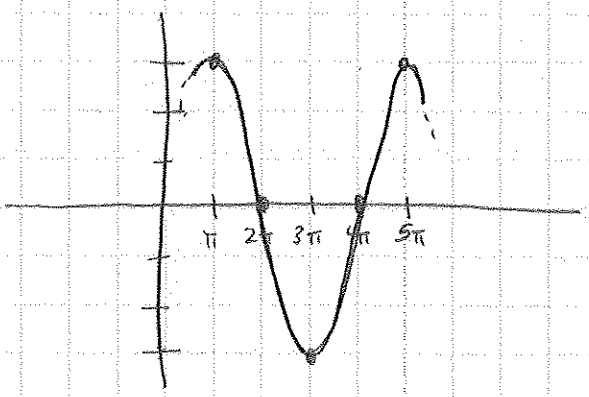
② $y = \tan(2x) + 3$

No Amp
Period = $\pi/2$
Up 3



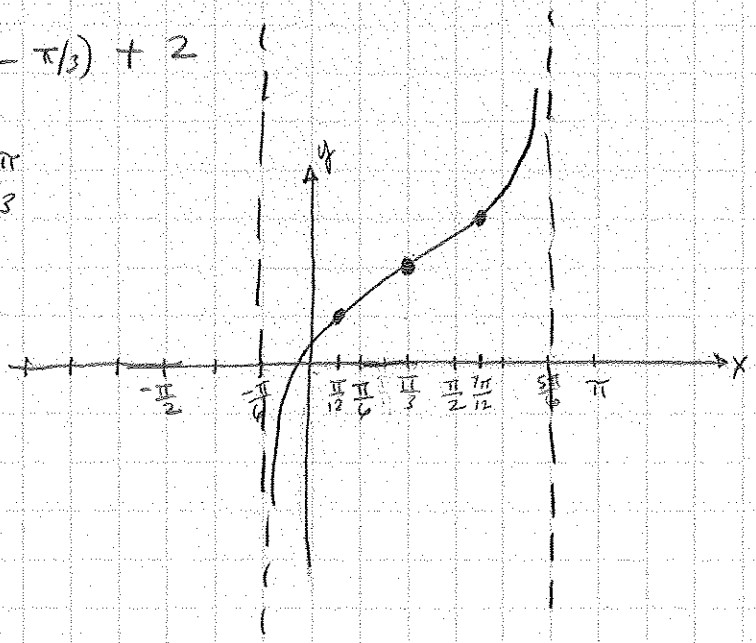
③ $y = 3\cos\left(\frac{1}{2}(x - \pi)\right)$

Amp = 3
Period = 4π
Right π



④ $y = \tan(x - \pi/3) + 2$

Period = π
Right $\pi/3$
Up 2

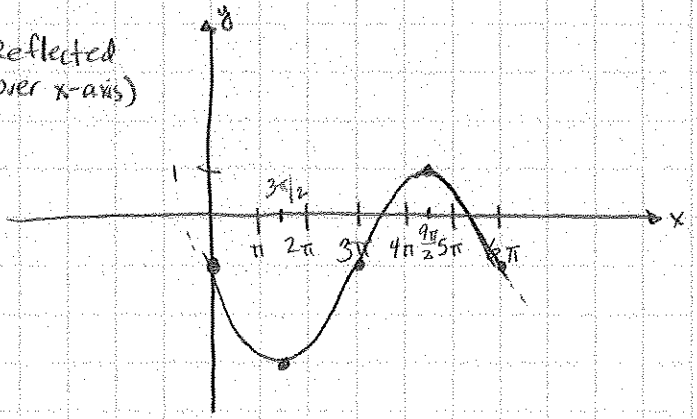


⑤ $y = -2\sin\left(\frac{x}{3}\right) - 1$

Amp = 2 (Reflected over x-axis)

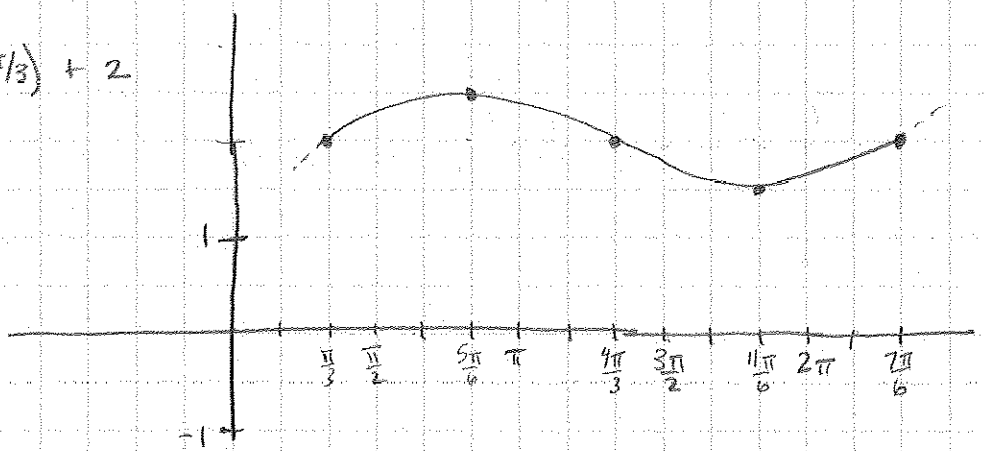
Period = 6π

Down 1



⑥ $y = \frac{1}{2}\sin\left(x + \pi/3\right) + 2$

Period = 2π
Amp = $1/2$
Left $\pi/3$
Up 2



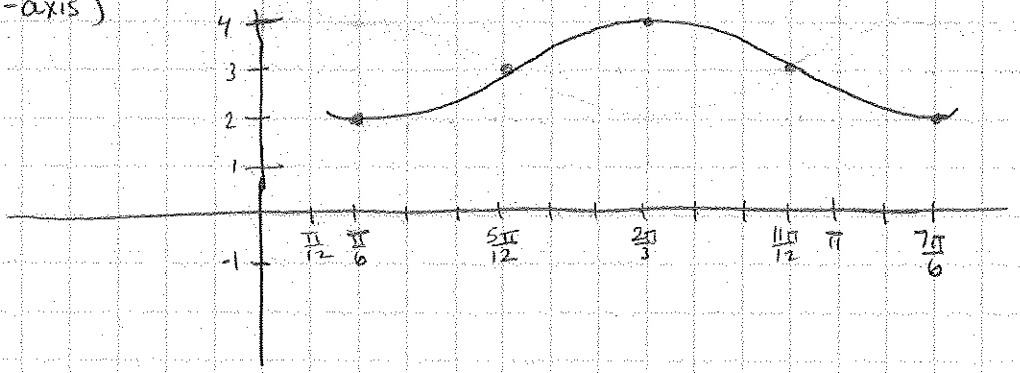
⑦ $y = -\cos\left(2\left(x - \pi/6\right)\right) + 3$

Amp = 1 (Reflected over x-axis)

Period = π

Right $\pi/6$

Up 3



⑧ $y = \cos(3x + \pi) + 5$

MUST FACTOR out the 3

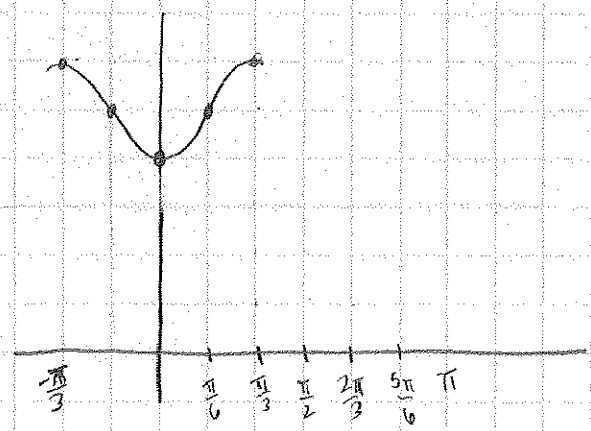
$y = \cos\left(3\left(x + \pi/3\right)\right) + 5$

Amp = 1

PERIOD = $2\pi/3$

LEFT $\pi/3$

UP 5



⑨ $y = 5\sin\left(\frac{x}{4} + \frac{\pi}{8}\right) - 1$

MUST FACTOR out 1/4 inside!

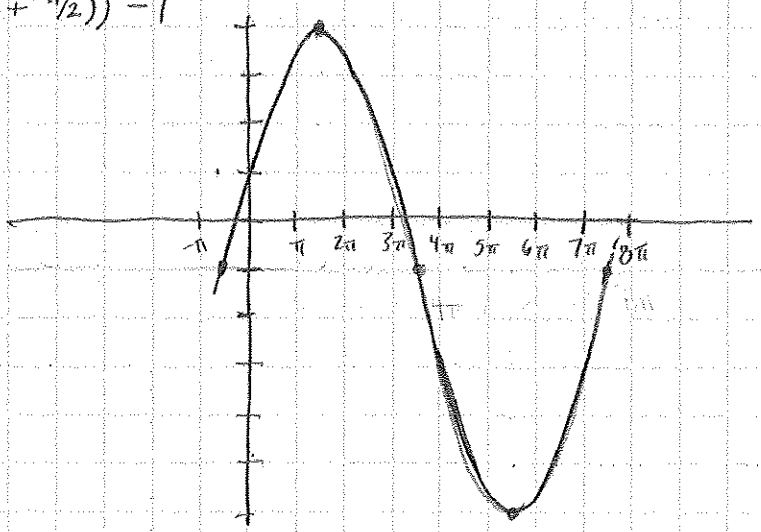
$y = 5\sin\left(\frac{1}{4}\left(x + \pi/2\right)\right) - 1$

Amp = 5

PERIOD = 8π

LEFT $\pi/2$

DOWN 1



(10) $y = \pm 5 \cos\left(\frac{1}{2}(x - \pi/6)\right)$ which is the same as $y = \pm 5 \cos\left(\frac{1}{2}x - \pi/12\right)$

(11) $y = \pm \cos\left(8(x - \pi)\right) - 1$ which is the same as $y = \pm \cos(8x - 8\pi) - 1$

(12) $y = \pm 6 \sin\left(4(x + \pi/8)\right)$ which is the same as $y = \pm 6 \sin(4x + \pi/2)$

(13) $y = \pm 1/2 \sin(x) + 3$

(14) ??? can't tell the period from the graph
the amplitude looks close to 3, but not sure?
fixed graph on new worksheet

(15) $y = \tan(x + \pi/2) + 1$

(16) Not sure exactly about scale... looks like intention was to have amplitude = 1 but moved up 3
Period looks like $4\pi/5$ it has been moved left π

$$y = \cos\left(\frac{5}{2}(x + \pi)\right) + 3$$

$$\frac{2\pi}{b} = \text{Period}$$

$$2\pi/b = 4\pi/5$$

$$2 = \frac{4}{5}b$$

$$\frac{5 \cdot 2}{4} = b$$

$$\frac{5}{2} = b$$