

Graphing Sine HW

$$5) y = 2\sin\left(\theta - \frac{\pi}{3}\right) + 4$$

$$\text{Amp} = 2$$

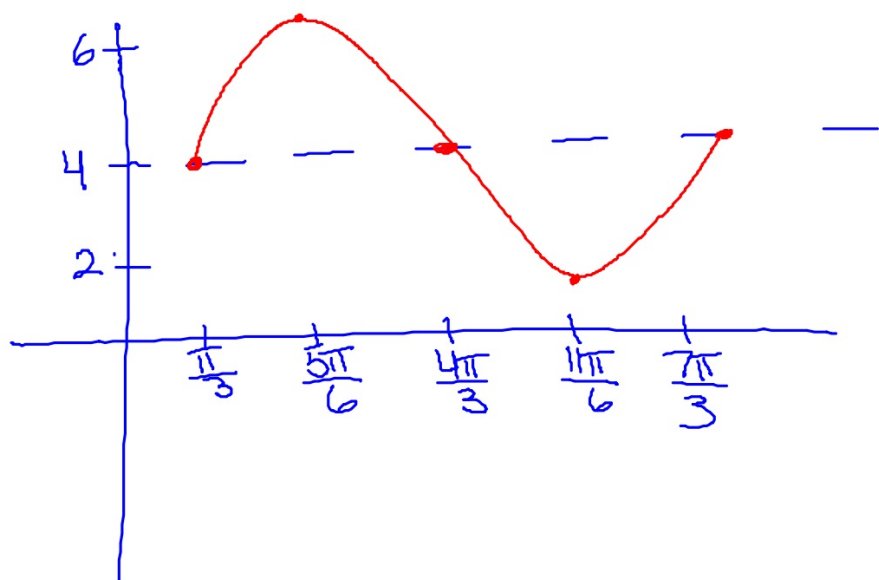
$$\text{Per} = 2\pi$$

$$\text{PS} = \frac{\pi}{3}$$

$$VS = 4$$

$$\text{Inc} = \frac{\pi}{2}$$

$$\left(\frac{2\pi}{4}\right)$$



$$6) y = 2 + 3\sin\left(\theta + \frac{\pi}{2}\right) \quad y = 3\sin\left(\theta + \frac{\pi}{2}\right) + 2$$

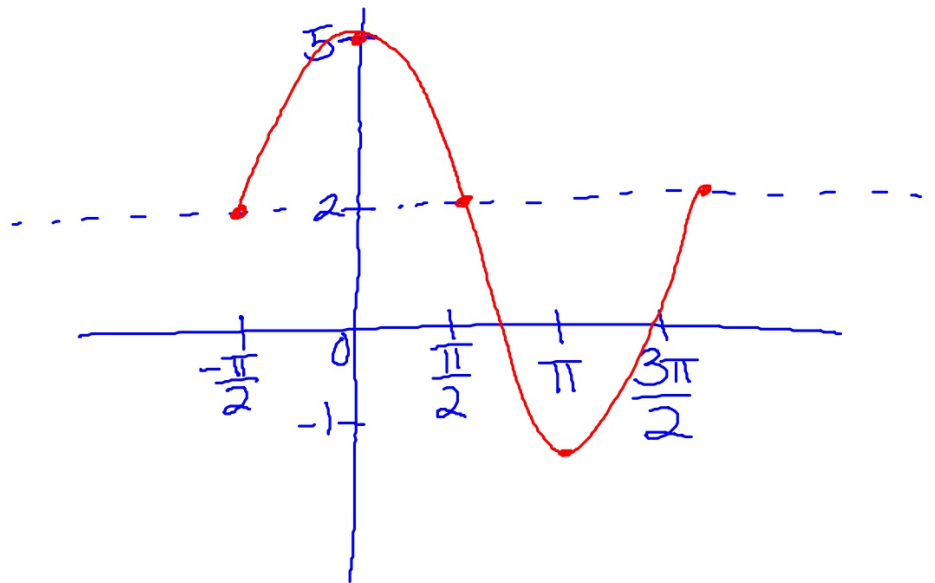
$$\text{Amp} = 3$$

$$\text{Per} = 2\pi$$

$$\text{PS} = -\frac{\pi}{2}$$

$$\text{VS} = 2$$

$$\text{Inc} = \frac{\pi}{2}$$



$$\rightarrow y = 4 \sin \frac{1}{2}(\theta + 2\pi) - 6$$

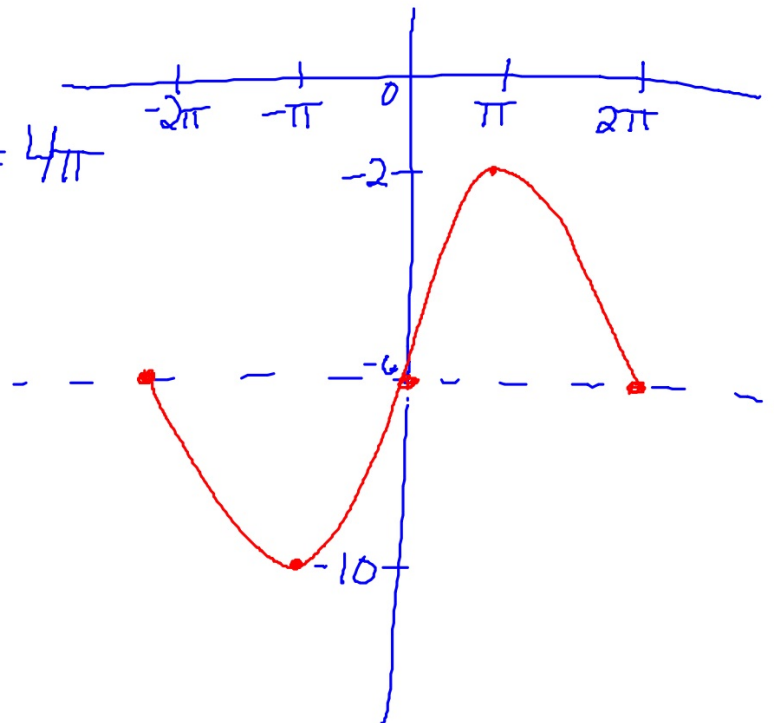
$$\text{Amp} = 4 \text{ (flip)}$$

$$\text{Per} = \frac{2\pi}{\frac{1}{2}} = \frac{2\pi}{1} \cdot \frac{2}{1} = 4\pi$$

$$\text{PS} = -2\pi$$

$$\text{VS} = -6$$

$$\text{Inc} = \frac{4\pi}{4} = \pi$$



$$8) y = \sin\left(\frac{\theta}{3} - \frac{\pi}{12}\right) - 2 \quad y = \sin\frac{1}{3}\left(\theta - \frac{\pi}{4}\right) - 2$$

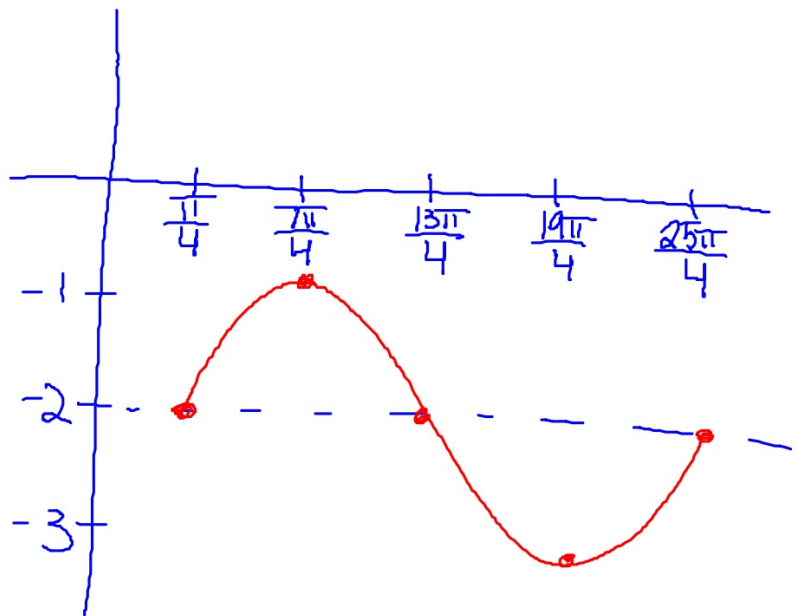
$$\text{Amp} = 1$$

$$\text{Per} = \frac{2\pi}{1/3} = 6\pi$$

$$\text{PS} = \frac{\pi}{4}$$

$$\text{VS} = -2$$

$$\text{Inc} = \frac{6\pi}{4} = \frac{3\pi}{2}$$



$$a) y = 3 \sin \frac{\theta}{2} - 3$$

$$y = 3 \sin \frac{1}{2} \theta - 3$$

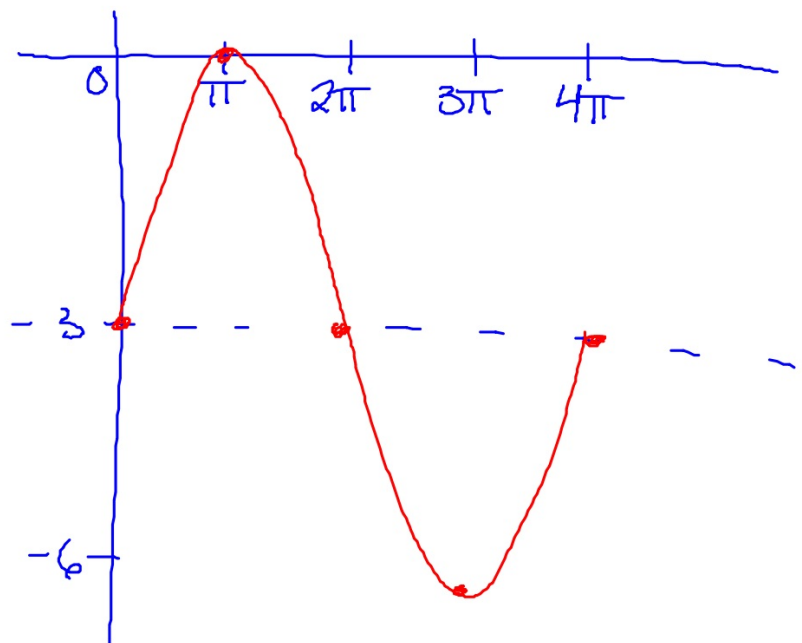
$$\text{Amp} = 3$$

$$\text{Per} = \frac{2\pi}{\frac{1}{2}} = 4\pi$$

$$\text{PS} = 0$$

$$\text{VS} = -3$$

$$\text{Inc} = \pi$$



$$10) y = 1 + \sin\left(\frac{\pi}{3}x - 2\pi\right) \quad y = \sin\frac{\pi}{3}(x-6) + 1$$

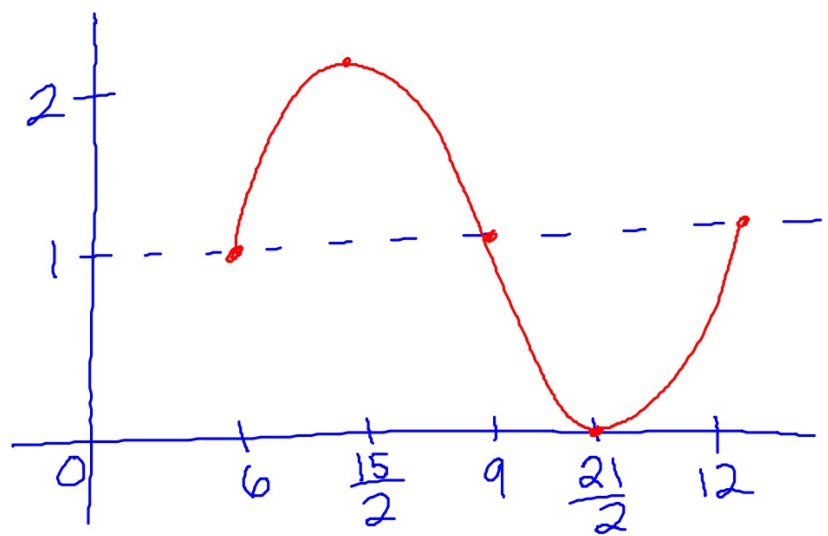
$$\text{Amp} = 1$$

$$\text{Per} = 6$$

$$\text{PS} = 6$$

$$\text{VS} = 1$$

$$\text{Inc} = \frac{3}{2}$$



$$1) y = 1 - 4\sin\left(\frac{\theta}{2} + \pi\right) \quad y = -4\sin\frac{1}{2}(\theta + 2\pi) + 1$$

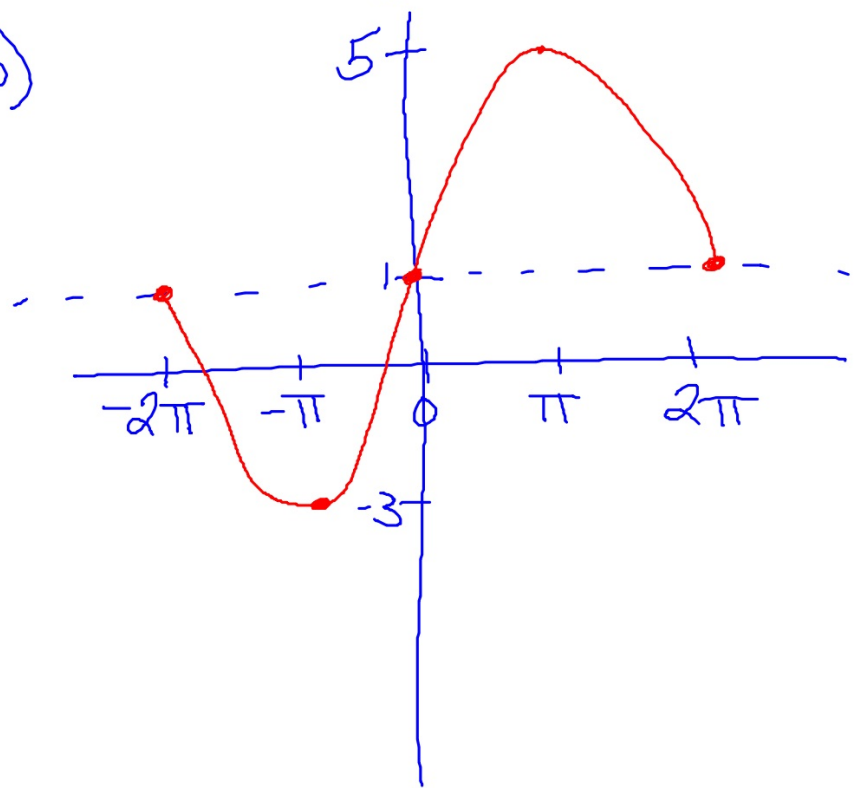
$$\text{Amp} = 4 \text{ (flip)}$$

$$\text{Per} = 4\pi$$

$$\text{PS} = -2\pi$$

$$\text{VS} = 1$$

$$\text{Incl} = \pi$$



$$12) y = 2\sin\frac{\theta}{3} - 5 \quad y = 2\sin\frac{1}{3}(\theta) - 5$$

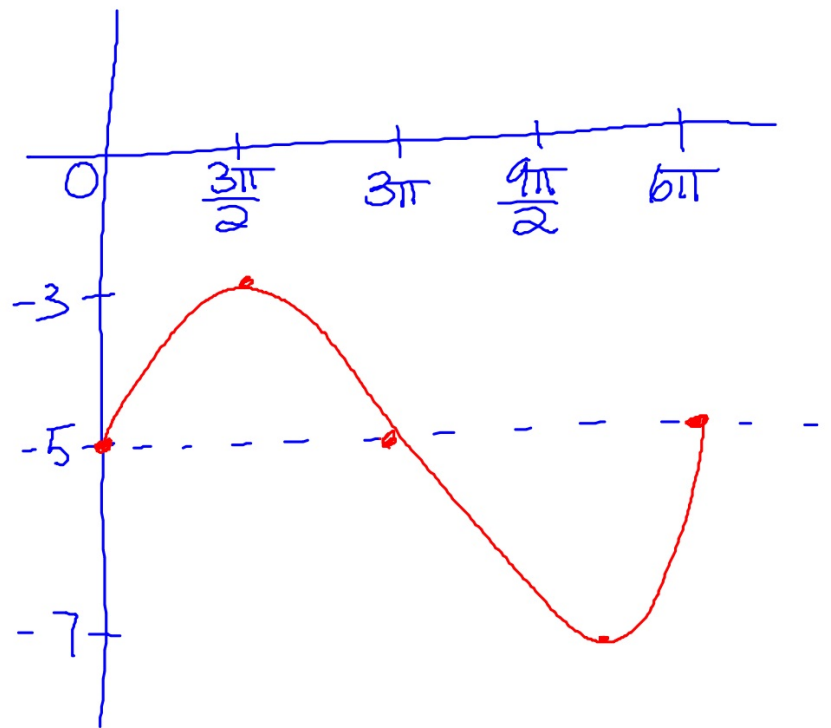
$$\text{Amp} = 2$$

$$\text{Per} = 6\pi$$

$$\text{PS} = 0$$

$$\text{VS} = -5$$

$$\text{Inc} = \frac{3\pi}{2}$$



$$13) y = -2 \sin\left(\frac{2\theta}{3} + 2\pi\right) + 4$$

$$y = -2 \sin\frac{2}{3}(\theta + 3\pi) + 4$$

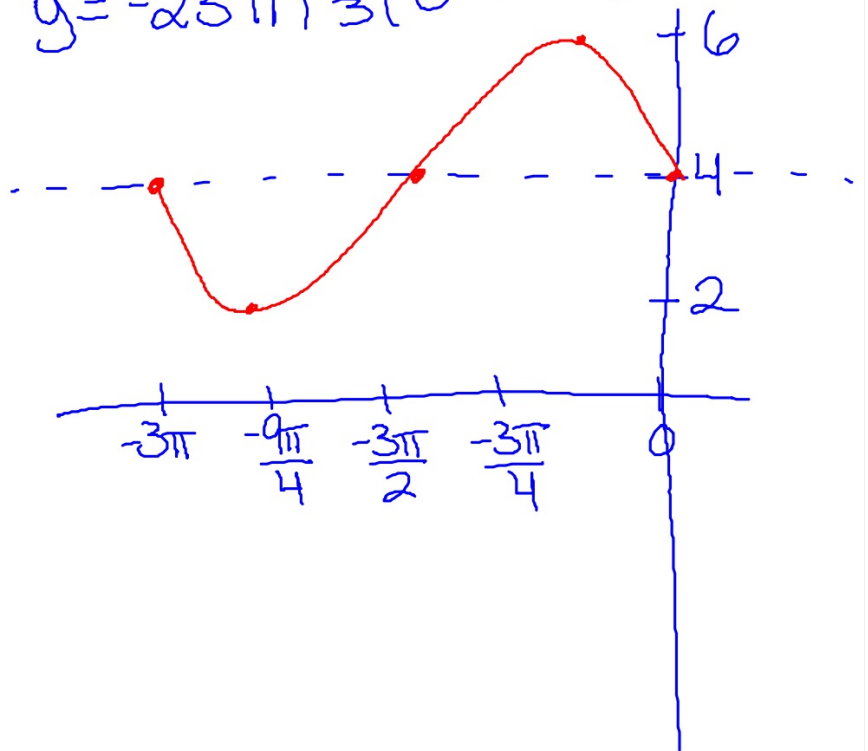
$$\text{Amp} = 2 \text{ (flip)}$$

$$\text{Per} = 3\pi$$

$$\text{PS} = -3\pi$$

$$\text{VS} = 4$$

$$\text{Inc} = \frac{3\pi}{4}$$



$$14) y = 3\sin 3(\theta - \pi) - 4$$

$$\text{Amp} = 3$$

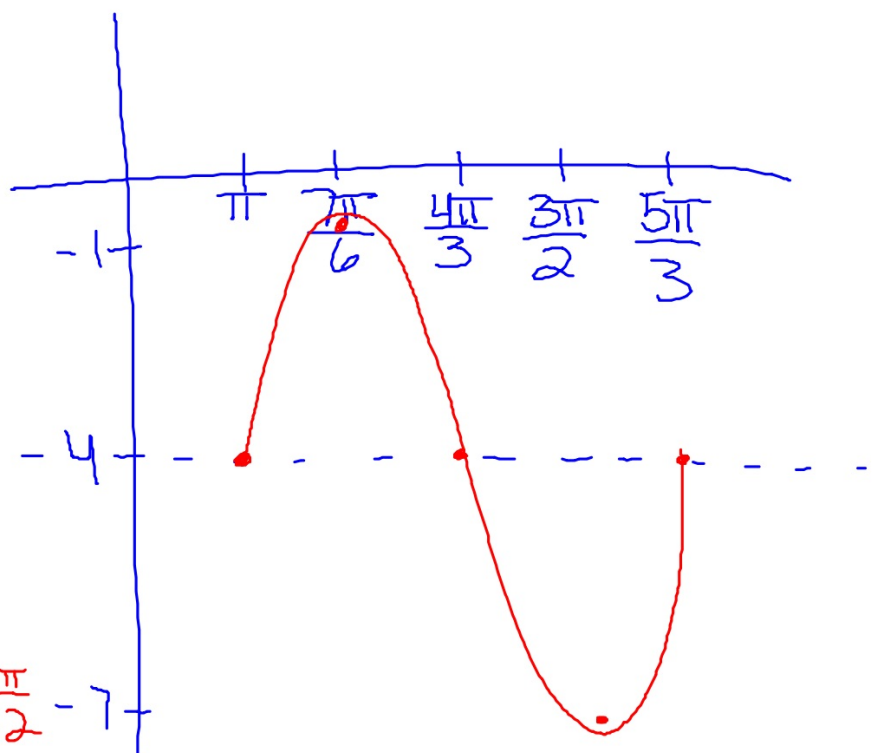
$$\text{Per} = \frac{2\pi}{3}$$

$$\text{PS} = \pi$$

$$\text{VS} = -4$$

$$\text{Inc} = \frac{\pi}{6}$$

$$\frac{\frac{2\pi}{3}}{4} = \frac{2\pi}{3} \cdot \frac{1}{4} = \frac{\pi}{6} - 7$$



$$15) y = 5 - \sin\left(\frac{\pi}{4}x - 4\pi\right)$$

$$y = -\sin\frac{\pi}{4}(x-16) + 5$$

Amp = 1 (flip)

Per = 8

PS = 16

VS = 5

Inc = 2

