5) $y = 3\cos\left(\frac{\pi}{2}\theta - 3\pi\right) - 1$ $y = 3\cos\frac{\pi}{2}(\theta - 6) - 1$

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

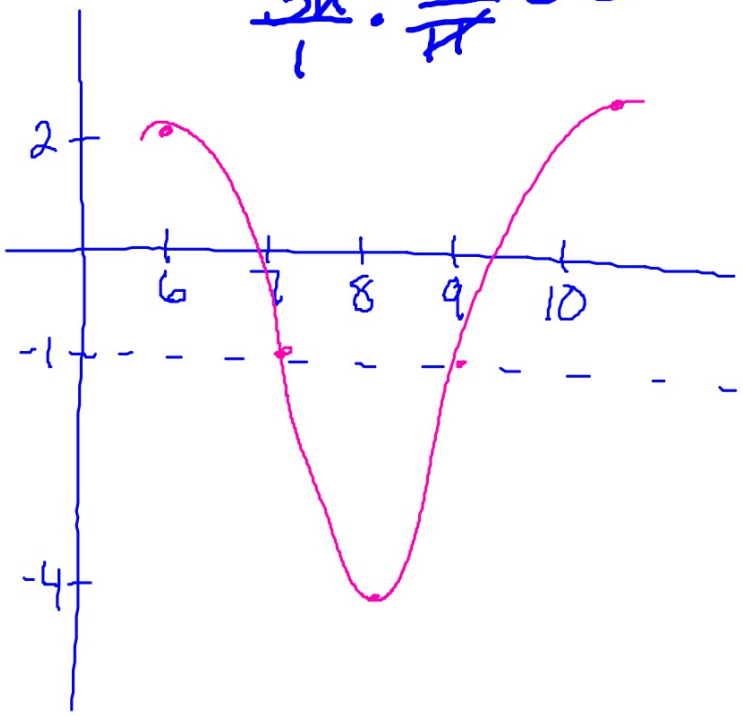
Amp = 3

Per = $\frac{2\pi}{\pi/2} = 4$

PS = 6

VS = −1

Inc = 1



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

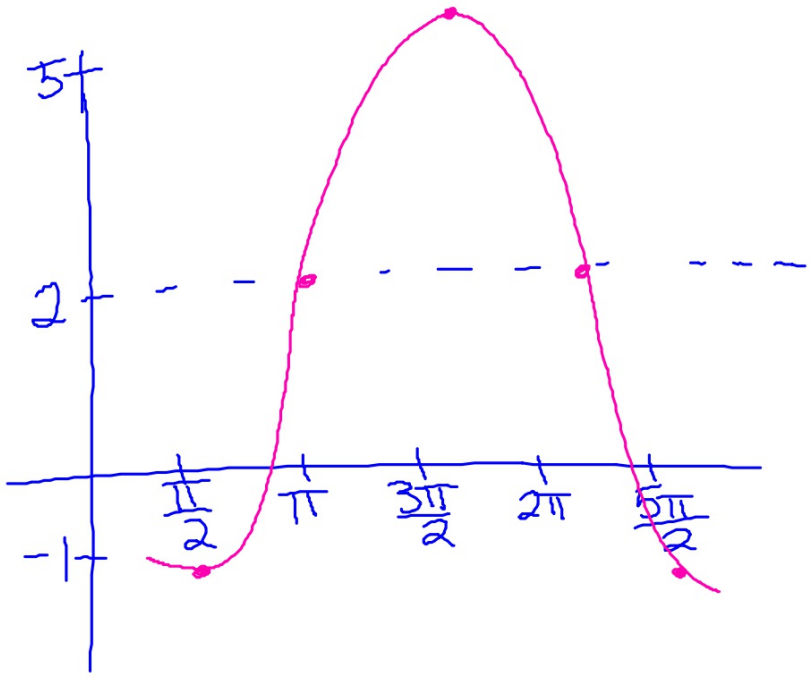
Amp = 3 (flip)

Per = 2π

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

VS = 2

Inc = $\frac{2\pi}{4} = \frac{\pi}{2}$



7) $5-2\cos\left(\theta+\frac{\pi}{3}\right)$

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

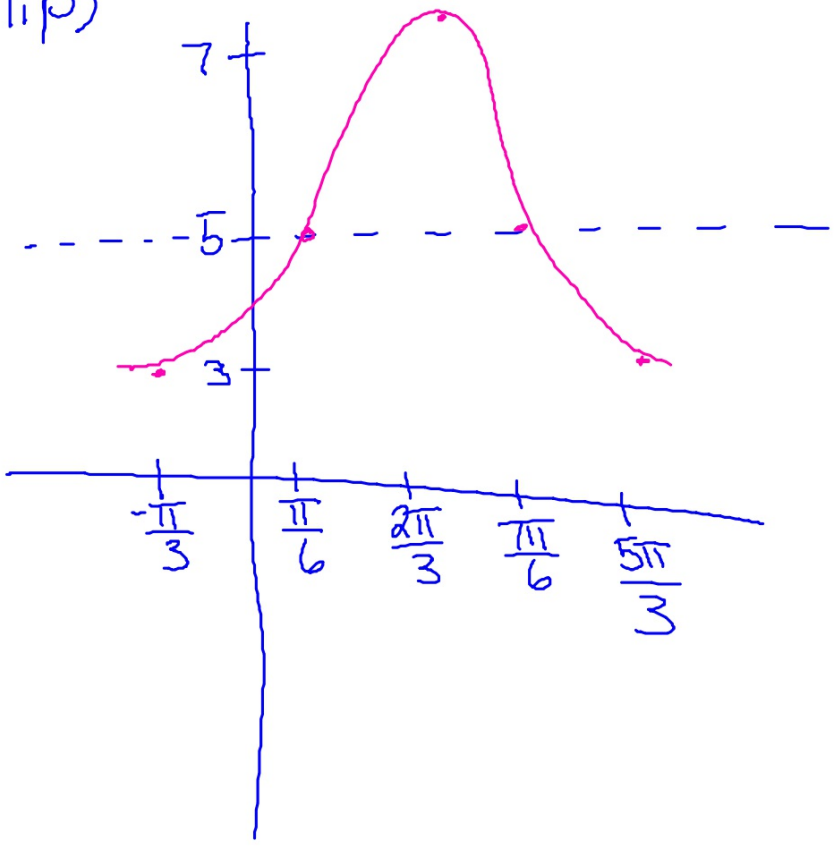
Amp = 2 (flip)

Per = 2π

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

VS = 5

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



8) $y = 4\cos\frac{\theta}{2} + 3$ $\quad y = 4\cos\frac{1}{2}\theta + 3$

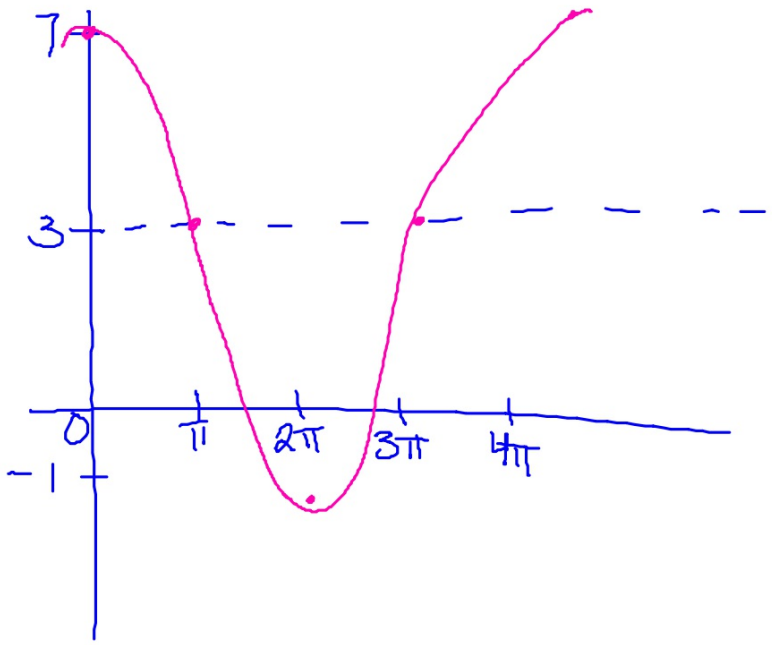
Amp = 4

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

PS = 0

VS = 3

Inc = π



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

$\frac{\pi}{9} \cdot \frac{3}{\pi}$ $\quad y = \cos\frac{\pi}{3}\left(\theta - \frac{1}{3}\right) - 2$

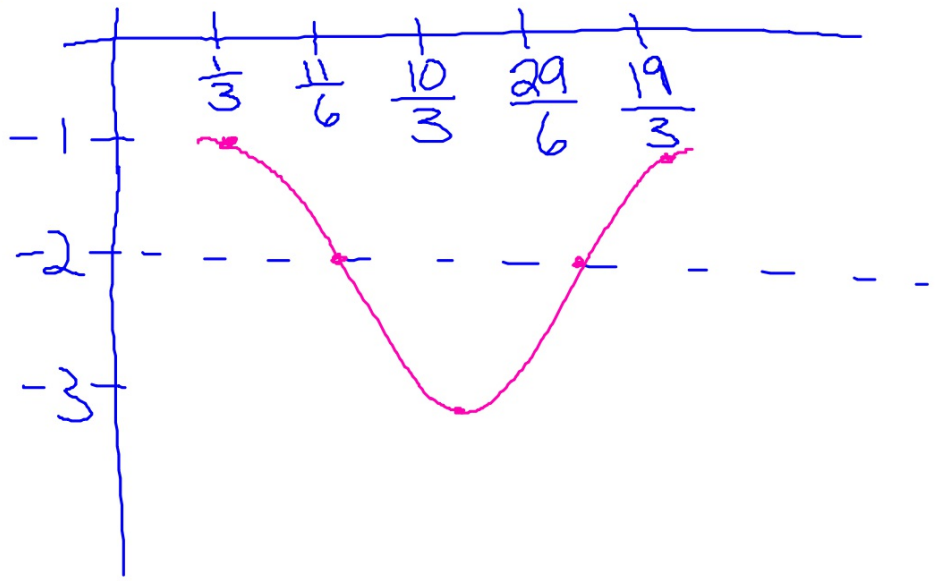
Amp = 1

Per $= \frac{2\pi}{\frac{\pi}{3}} = 6$

PS $= \frac{1}{3}$

VS $= -2$

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



10) $y = \frac{1}{4}\cos\frac{\theta}{2} - 3$ $\quad y = \frac{1}{4}\cos\frac{1}{2}\theta - 3$

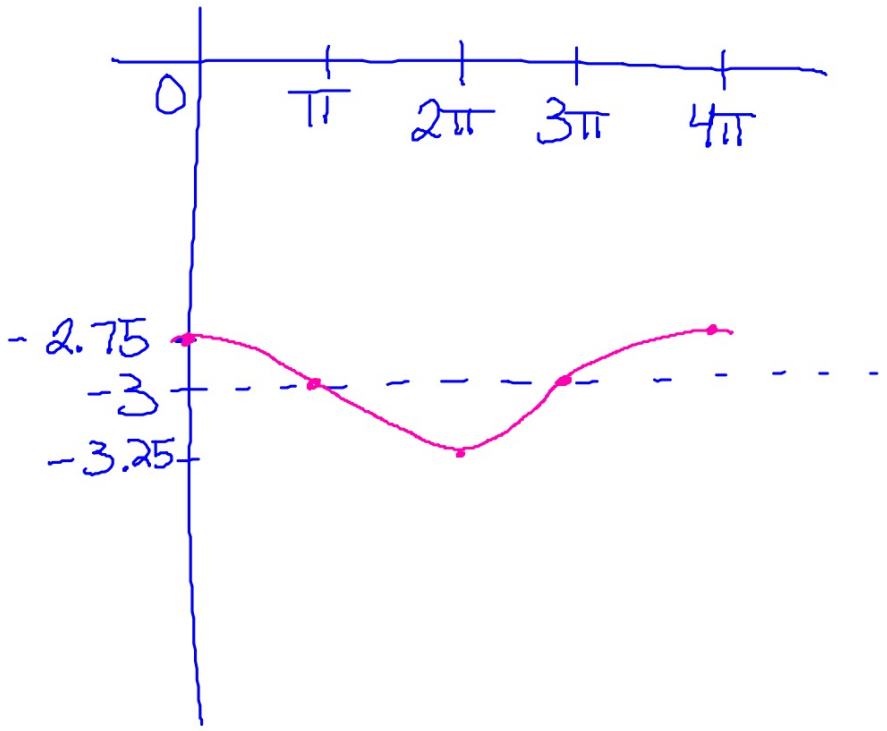
Amp $= \frac{1}{4}$

Per $= 4\pi$

PS $= 0$

VS $= -3$

Inc $= \pi$



Write the equation for sine.

$y = A \sin B(\theta - C) + D$

Amp $= 7 = A$

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

PS $= \pi = C$

VS $= -7 = D$

$y = 7 \sin \frac{2}{3}(\theta - \pi) - 7$

$\frac{3\pi}{1} = \frac{2\pi}{B}$ $3\pi B = 2\pi$

$B = \frac{2\pi}{3\pi}$

$Amp = 50$

$Per = \frac{3\pi}{4}$

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

$VS = -25$

$y = 50\sin\frac{8}{3}(\theta + \frac{\pi}{2}) - 25$

$\frac{3\pi}{4} = \frac{2\pi}{B}$

$3\pi B = 8\pi$

$B = \frac{8}{3}$

Cos

$y = A\cos B(\theta - C) + D$

Amp = 3.5

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

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

VS = 7

$y = 3.5\cos 4(\theta - \frac{\pi}{4}) + 7$

$\frac{\pi}{2} = \frac{2\pi}{B}$

$B\pi = 4\pi$

$B = 4$

$\text{Amp} = \frac{4}{5}$

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

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

$\text{VS} = \frac{7}{5}$

$y = \frac{4}{5}\cos 12\left(\theta - \frac{\pi}{3}\right) + \frac{7}{5}$

$\frac{\pi}{6} = \frac{2\pi}{B}$

$B\pi = 12\pi$

$B = 12$