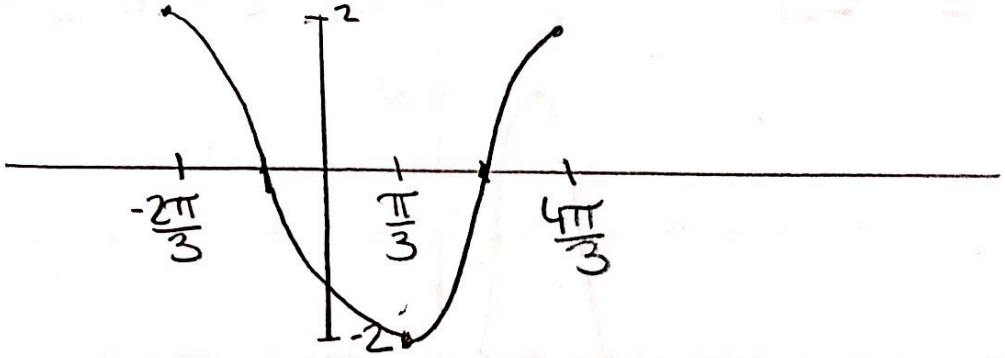
2) $y = 2\cos(x + \frac{2\pi}{3})$

P	A
2π	2
PS	VS
$\angle \frac{2\pi}{3}$	—

D: $[0, 2\pi] \rightarrow [-\frac{2\pi}{3}, \frac{4\pi}{3}]$

R: $[-2, 2]$

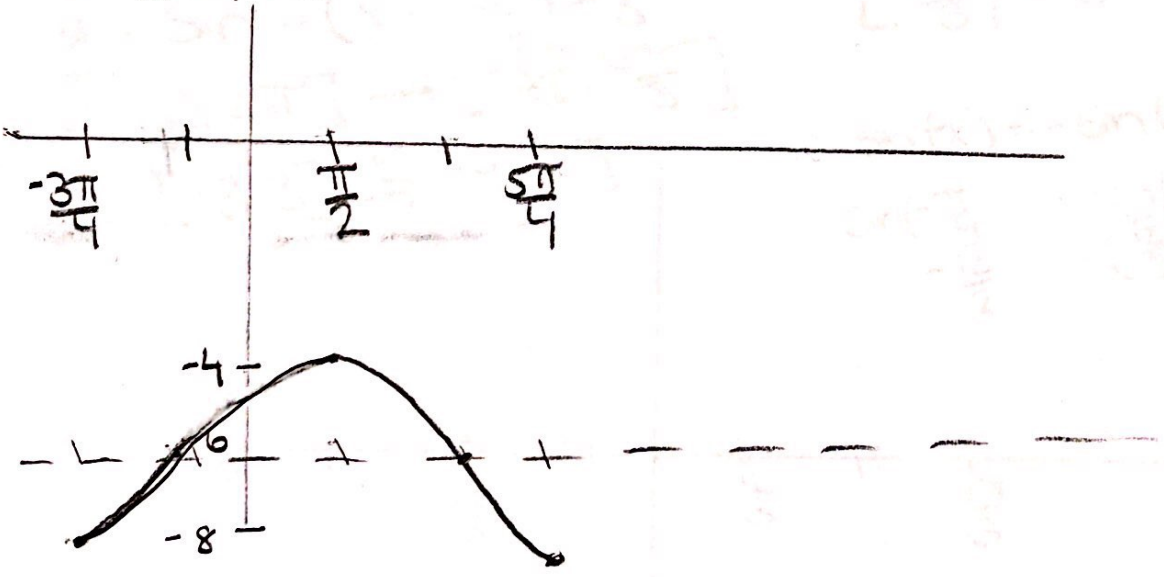


4) $y = -2\cos(x + \frac{3\pi}{4}) - 6$

P	A
2π	2
PS	VS
$\angle \frac{3\pi}{4}$	D 6

D: $[0, 2\pi] \rightarrow [-\frac{3\pi}{4}, \frac{5\pi}{4}]$

R: $[-2, 2] \rightarrow [-8, -4]$



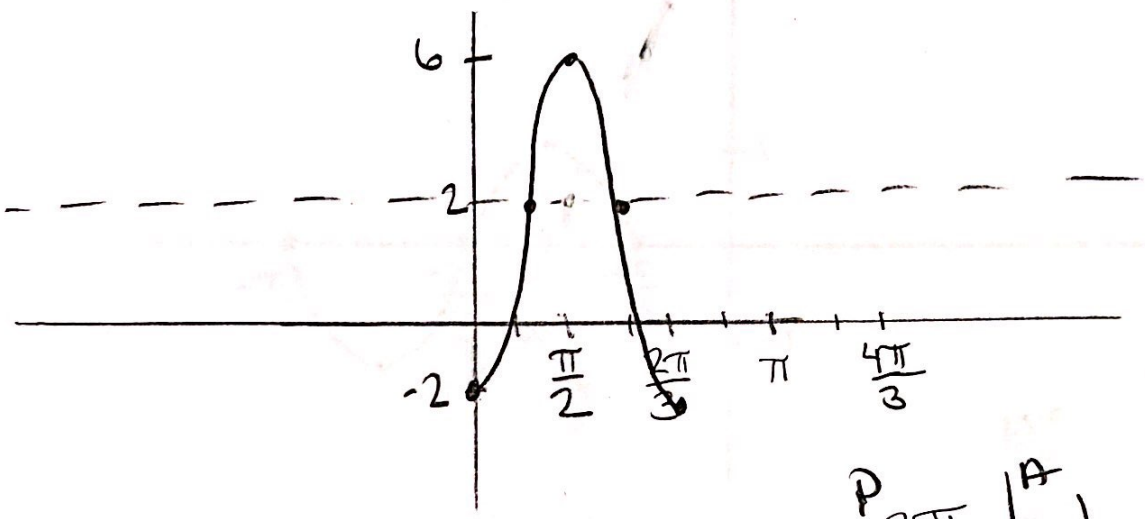
7) $y = -4\cos(3x - 2\pi) + 2$

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

P	A
$\frac{2\pi}{3}$	4
PS	VS
$R\frac{2\pi}{3}$	U2

D: $[0, \frac{2\pi}{3}] \to [\frac{2\pi}{3}, \frac{4\pi}{3}] \to [0, \frac{2\pi}{3}]$

R: $[-4, 4] \to [-2, 6]$



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

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

D: $[0, 2\pi] \to [-\frac{2\pi}{3}, \frac{4\pi}{3}]$

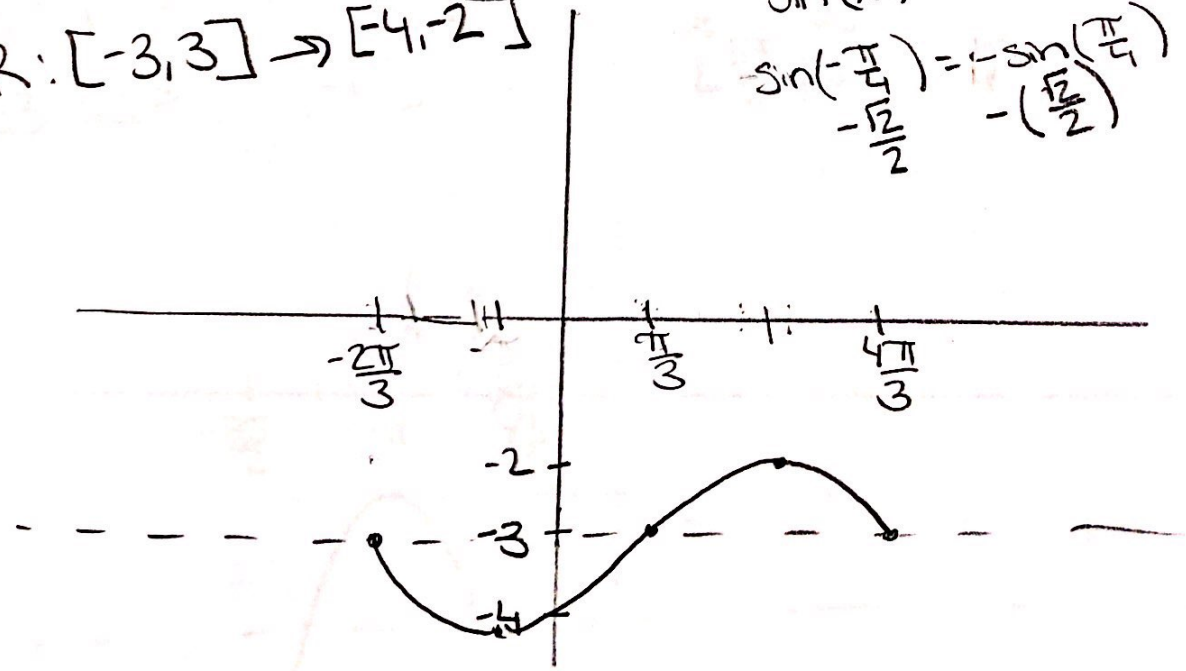
R: $[-3, 3] \to [-4, -2]$

P	A
2π	1
PS	V.S
L $\frac{2\pi}{3}$	-3

$\sin(x) = -\sin(x)$ Rule

$\sin(-\frac{\pi}{4}) = -\sin(\frac{\pi}{4})$

$-\frac{\sqrt{2}}{2} \quad -(\frac{\sqrt{2}}{2})$



b) $y = \sin(-3x - 3\pi)$

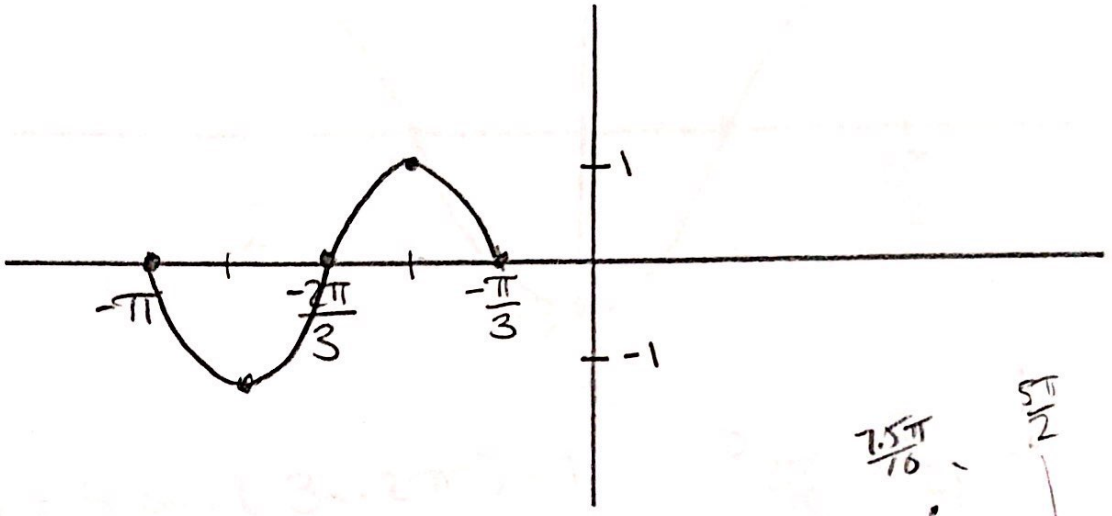
$y = \sin -3(x + \pi)$

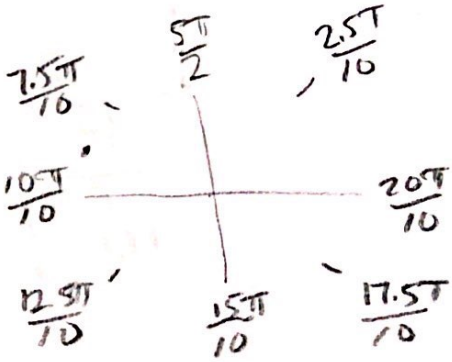
D: $[0, \frac{2\pi}{3}] \rightarrow [-\pi, -\frac{\pi}{3}]$

R: $[-1, 1]$ $\quad [-\frac{\pi}{3}, \frac{\pi}{3}]$

P $\frac{2\pi}{3}$	A 1
PS	VS
LT	—

$\sin(-x) = -\sin x$





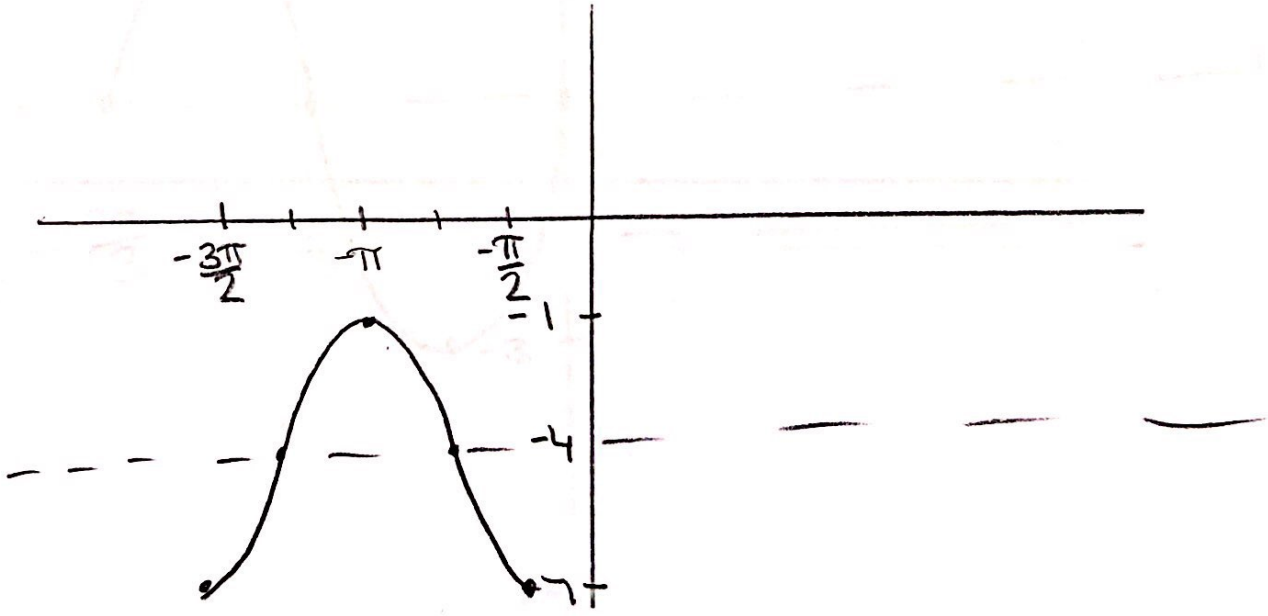
12) $y = -3\cos(2x + 3\pi) - 4$

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

D: $[0, \pi] \rightarrow [-\frac{3\pi}{2}, -\frac{\pi}{2}]$

R: $[-3, 3] \rightarrow [-7, -1]$

P π	A 3
PS	VS
L $\frac{3\pi}{2}$	D4



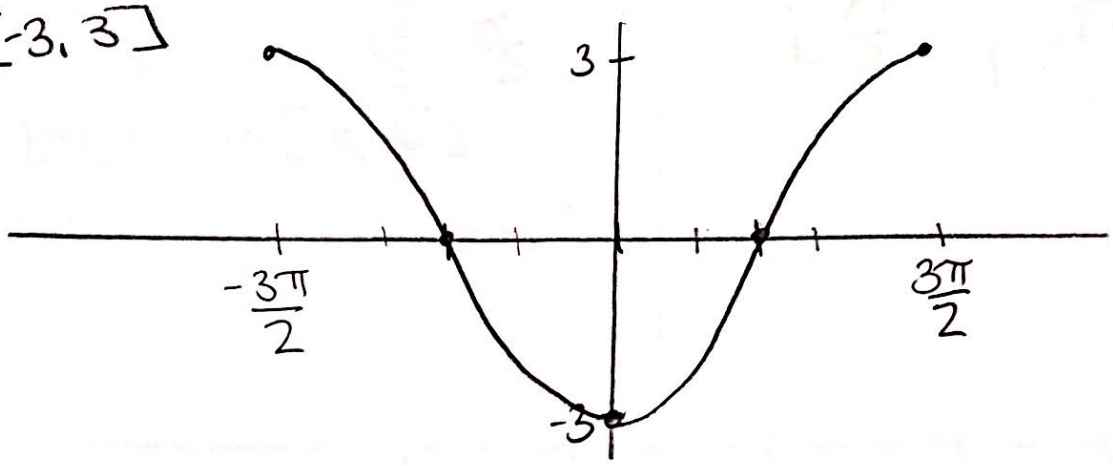
4) $y = 3\cos\left(\frac{2}{3}x + \pi\right)$

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

D: $[0, 3\pi] \rightarrow \left[-\frac{3\pi}{2}, \frac{3\pi}{2}\right]$

R: $[-3, 3]$

P	A
3π	3
PS	VS
L $\frac{3\pi}{2}$	—



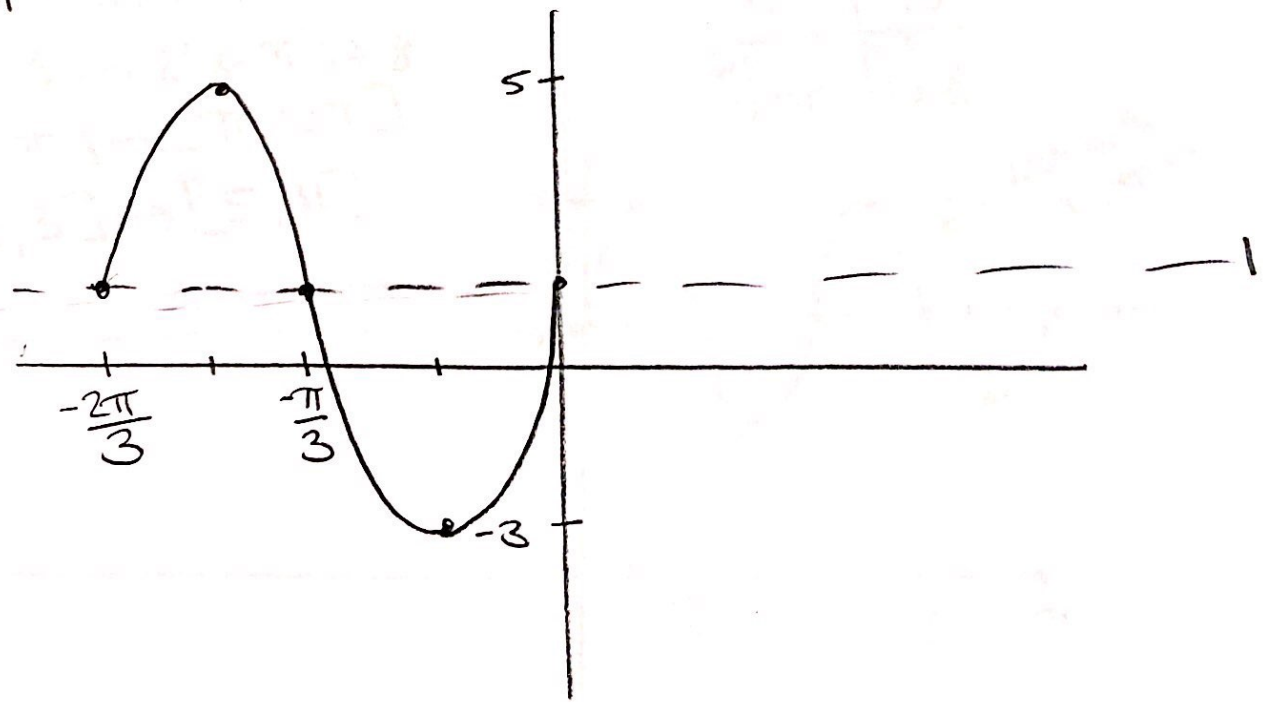
16) $y = 4\sin(-3x - 2\pi) + 1$

$y = 4\sin -3\left(x + \frac{2\pi}{3}\right) + 1$

D: $[0, \frac{2\pi}{3}] \rightarrow [-\frac{2\pi}{3}, 0]$

R: $[-4, 4] \rightarrow [-3, 5]$

P	A
$\frac{2\pi}{3}$	4
P.S	V.S
L $\frac{2\pi}{3}$	U1



18) $y = -\sin\left(-x + \frac{2\pi}{3}\right) - 7$

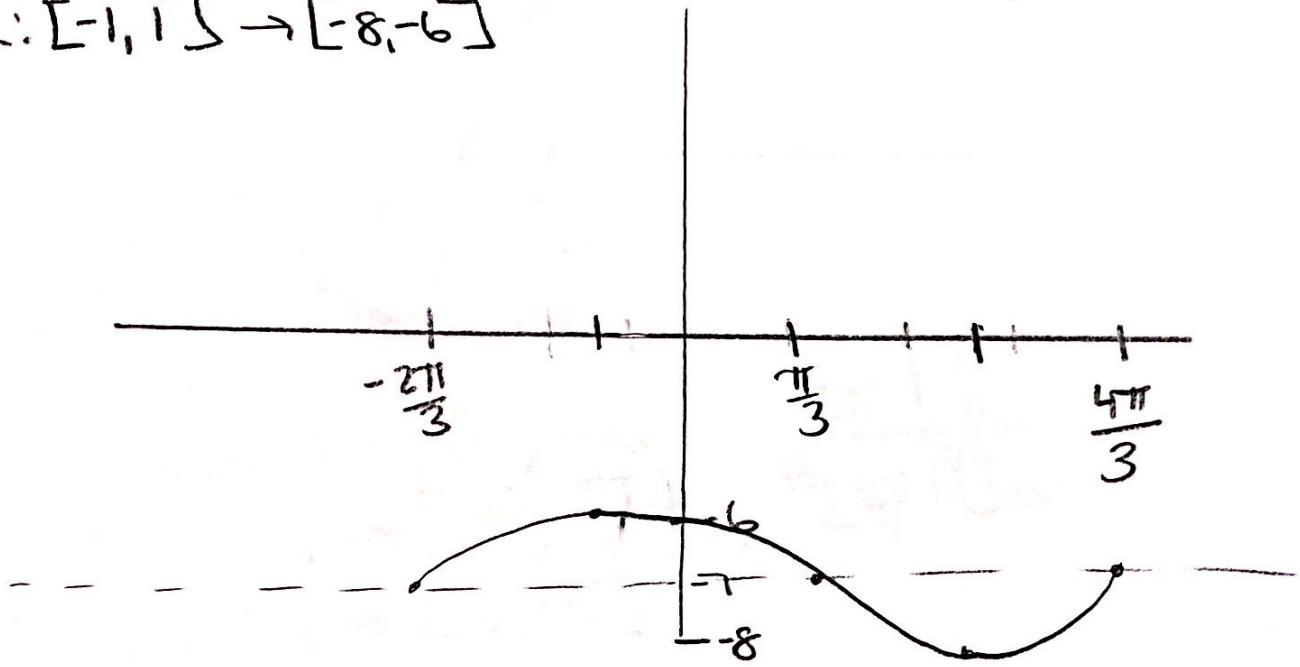
$y = -\sin -\left(x + \frac{2\pi}{3}\right) - 7$

$y = \sin\left(x + \frac{2\pi}{3}\right) - 7$

D: $[0, 2\pi] \rightarrow \left[-\frac{2\pi}{3}, \frac{4\pi}{3}\right]$

R: $[-1, 1] \rightarrow [-8, -6]$

P	A
2π	
PS	VS
$L\ \frac{2\pi}{3}$	D 7



20) $y = 9 + 3\sin(2x - 2\pi) - 1$

$y = 3\sin 2(x - \pi) + 8$

D: $[0, \pi] \rightarrow [\pi, 2\pi]$

R: $[-3, 3] \rightarrow [5, 11]$

P	A
π	3
PS	VS
R π	U 8