

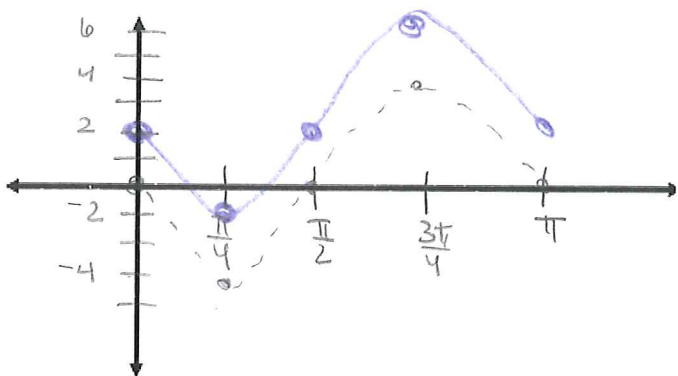
Identify the important information for the following equations, then graph.

1.) $y = -4 \sin 2x + 2$

Amplitude: 4 * Period: $\frac{2\pi}{2} = \pi$

H.S.: none V.S.: ↑ 2

D: $(-\infty, \infty)$ R: $[-2, 6]$

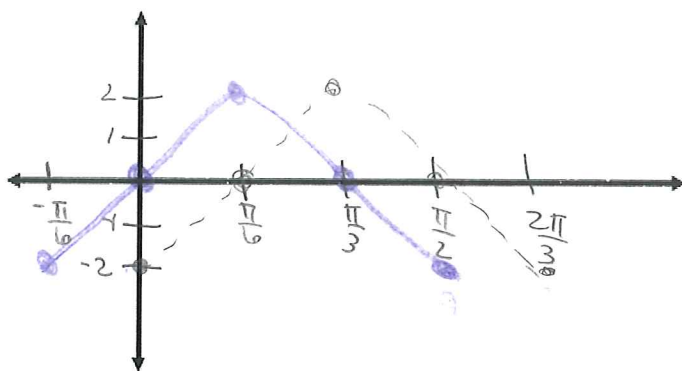


2.) $y = -2 \cos 3\left(x + \frac{\pi}{6}\right)$

Amplitude: 2 * Period: $\frac{2\pi}{3}$ ↓

H.S.: $\frac{\pi}{6} \leftarrow$ V.S.: none

D: $(-\infty, \infty)$ R: $[-2, 2]$

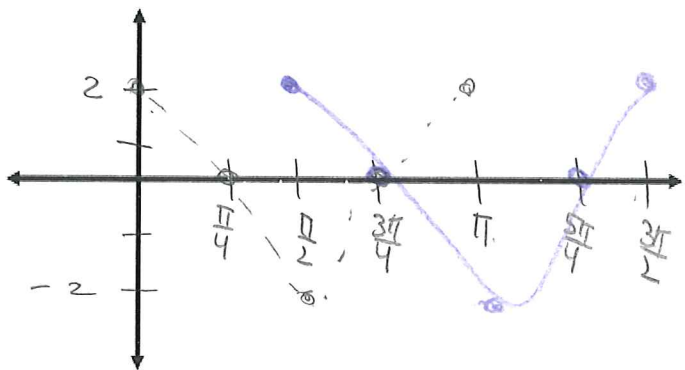


3.) $y = 2 \cos(2x - \pi)$

Amplitude: 2 Period: $\frac{2\pi}{2} = \pi$

H.S.: $\frac{\pi}{2} \rightarrow$ V.S.: none

D: $(-\infty, \infty)$ R: $[-2, 2]$

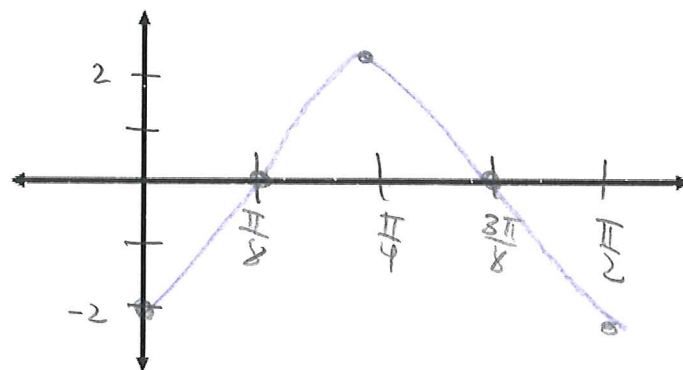


4.) $y = -2 \cos 4x$

Amplitude: 2 * Period: $\frac{2\pi}{4} = \frac{\pi}{2}$

H.S.: none V.S.: none

D: $(-\infty, \infty)$ R: $[-2, 2]$

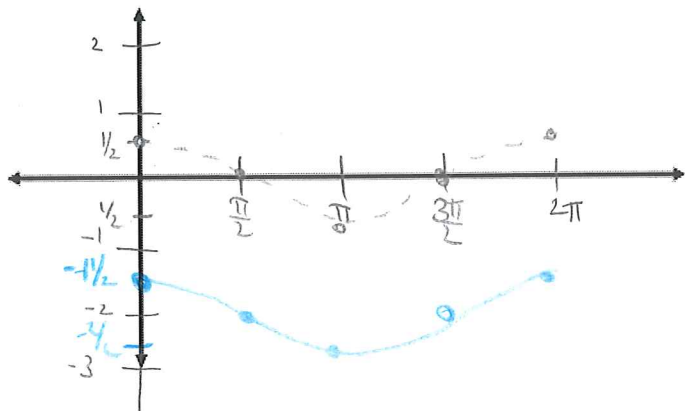


5.) $y = \frac{1}{2} \cos x - 2$

Amplitude: $\frac{1}{2}$ Period: 2π

H.S.: none V.S.: $\downarrow 2$

D: $(-\infty, \infty)$ R: $[-2\frac{1}{2}, -1\frac{1}{2}]$

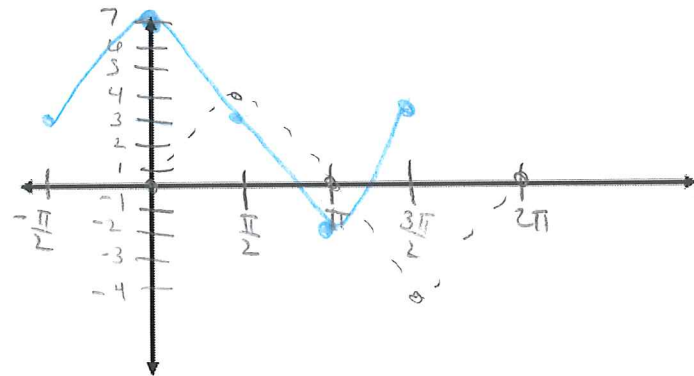


6.) $y = 4 \sin\left(x + \frac{\pi}{2}\right) + 3$

Amplitude: 4 Period: 2π

H.S.: $\frac{\pi}{2} \leftarrow$ V.S.: $\uparrow 3$

D: $(-\infty, \infty)$ R: $[-1, 7]$

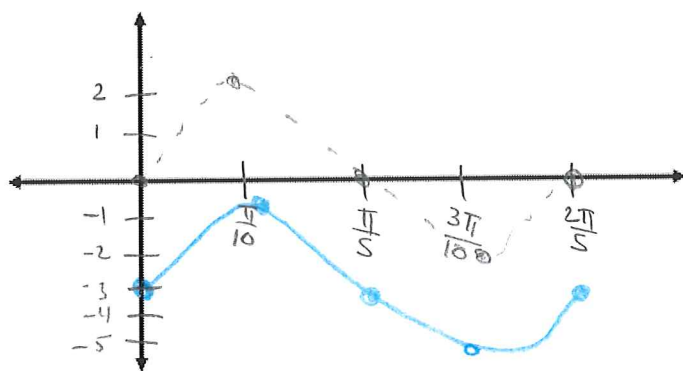


7.) $y = 2 \sin 5x - 3$

Amplitude: 2 Period: $\frac{2\pi}{5}$

H.S.: none V.S.: $\downarrow 3$

D: $(-\infty, \infty)$ R: $[-5, -1]$

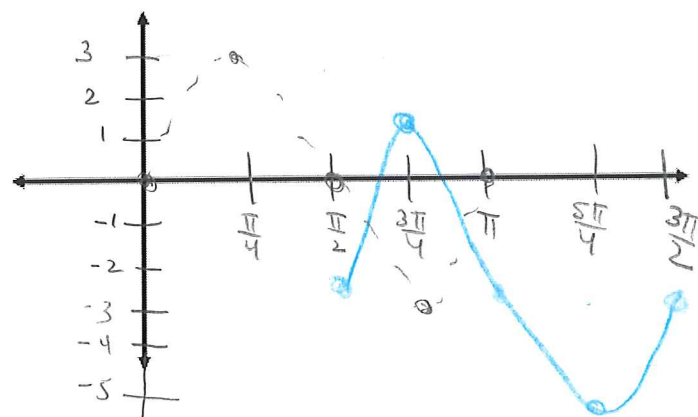


8.) $y = 3 \sin\left(2x - \frac{\pi}{2}\right) - 2$

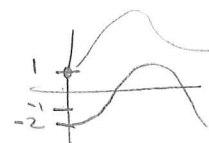
Amplitude: 3 Period: $\frac{2\pi}{2} = \pi$

H.S.: $\frac{\pi}{2} \rightarrow$ V.S.: $\downarrow 2$

D: $(-\infty, \infty)$ R: $[-5, 1]$



9.) What is the minimum value of $y = -2 \cos x + 3$? 1



10.) What is the maximum value of $y = 3 \sin\left(x + \frac{\pi}{2}\right) - 1$? 2

