

Graphing Practice

Graph each of the following functions and state the transformations.

1. $y = \sin x + 1$

(Phase)
Horizontal Shift = none

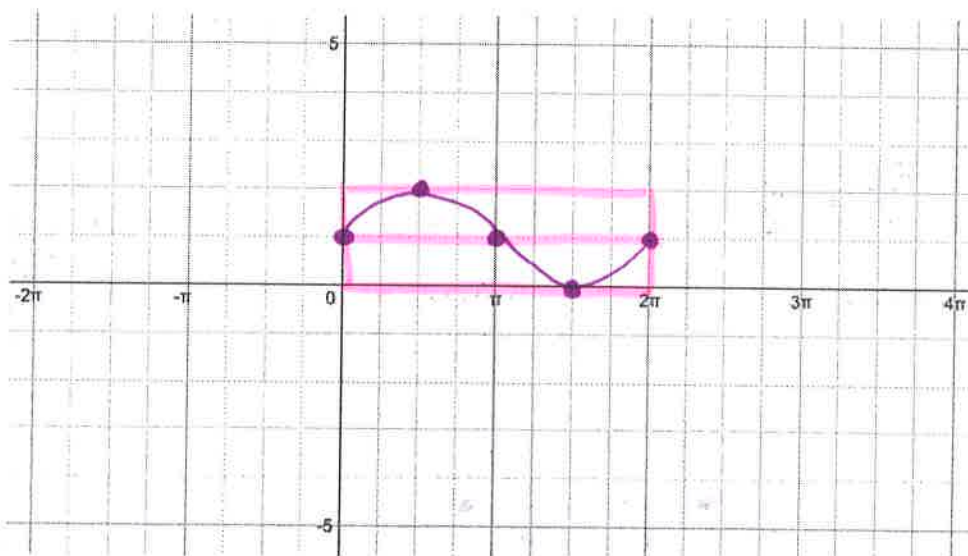
Amplitude = 1

$b =$ 1

Vertical Shift = up 1

Range = $[0, 2]$

Period = $\frac{2\pi}{1} = 2\pi$



2. $y = \cos x - 2$

Horizontal Shift = none

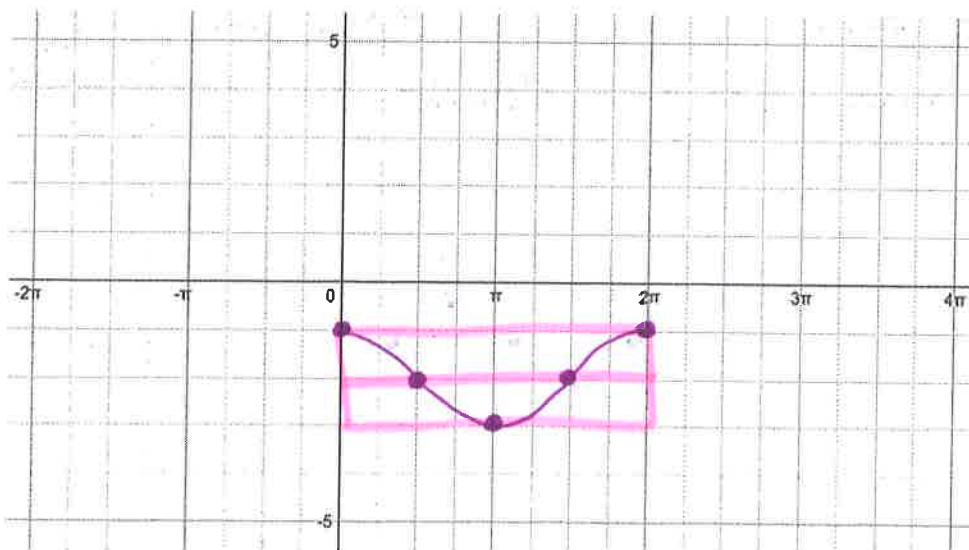
Amplitude = 1

$b =$ 1

Vertical Shift = down 2

Range = $[-3, -1]$

Period = $\frac{2\pi}{1} = 2\pi$



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

Horizontal Shift = $\frac{\pi}{1} = \pi$

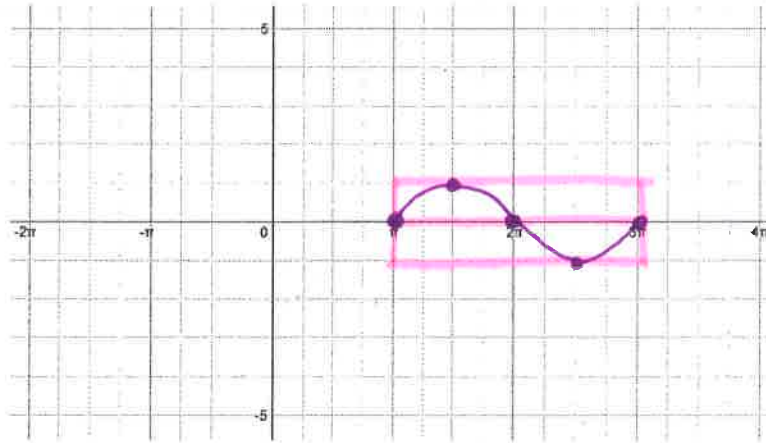
Amplitude = 1

$b = 1$

Vertical Shift = none

Range = $[-1, 1]$

Period = $\frac{2\pi}{1} = 2\pi$



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

Horizontal Shift = $\frac{-\pi/2}{1} = -\frac{\pi}{2}$

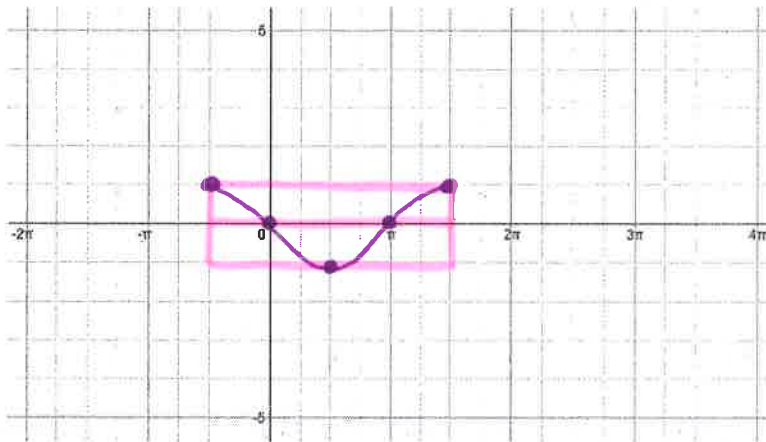
Amplitude = 1

$b = 1$

Vertical Shift = none

Range = $[-1, 1]$

Period = $\frac{2\pi}{1} = 2\pi$



5. $y = -\sin x$

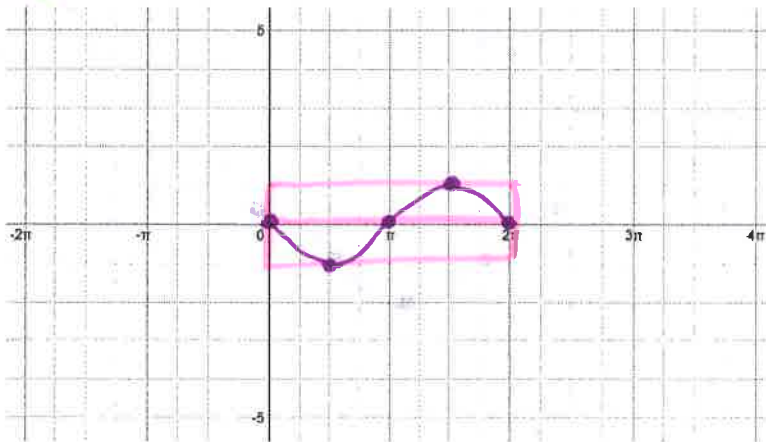
Horizontal Shift = none

Amplitude = 1 *reflected $b = 1$

Vertical Shift = none

Range = $[-1, 1]$

Period = $\frac{2\pi}{1} = 2\pi$



6. $y = \cos x$

Horizontal Shift = none

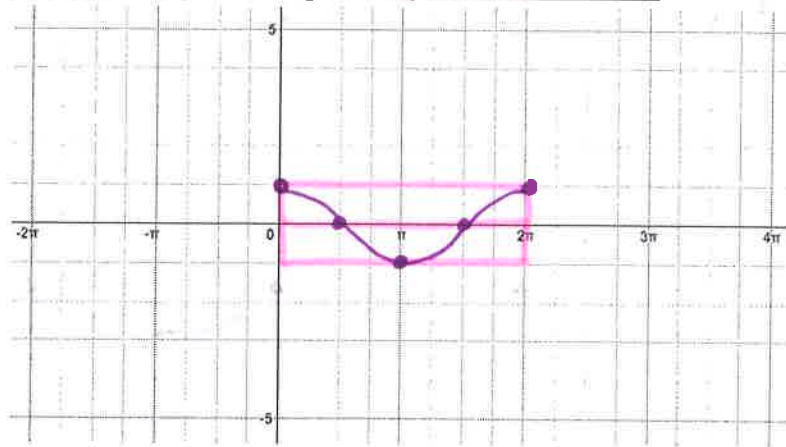
Amplitude = 1

$b =$ 1

Vertical Shift = none

Range = $[-1, 1]$

Period = $\frac{2\pi}{1} = 2\pi$



7. $y = -2 \sin(2x)$

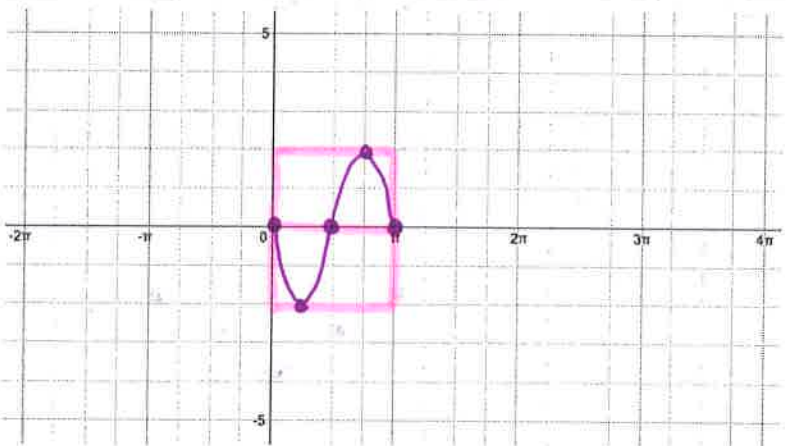
Horizontal Shift = none

Amplitude = 2 * reflected $b =$ 2

Vertical Shift = none

Range = $[-2, 2]$

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



8. $y = 3 \cos x + 2$

Horizontal Shift = none

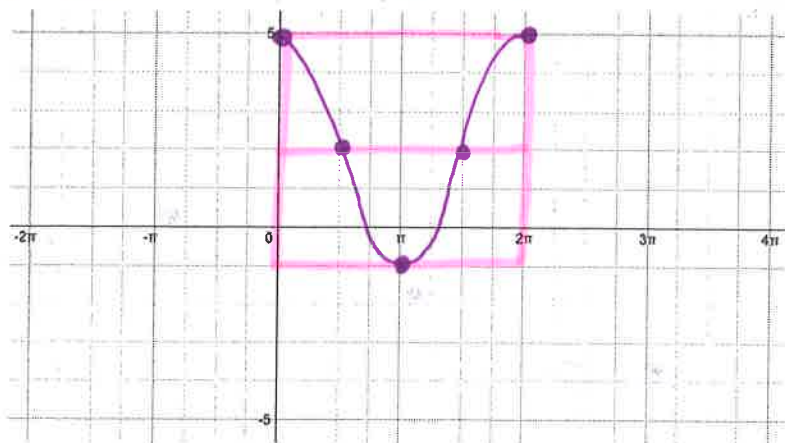
Amplitude = 3

$b =$ 1

Vertical Shift = up 2

Range = $[-1, 5]$

Period = $\frac{2\pi}{1} = 2\pi$



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

Horizontal Shift = none

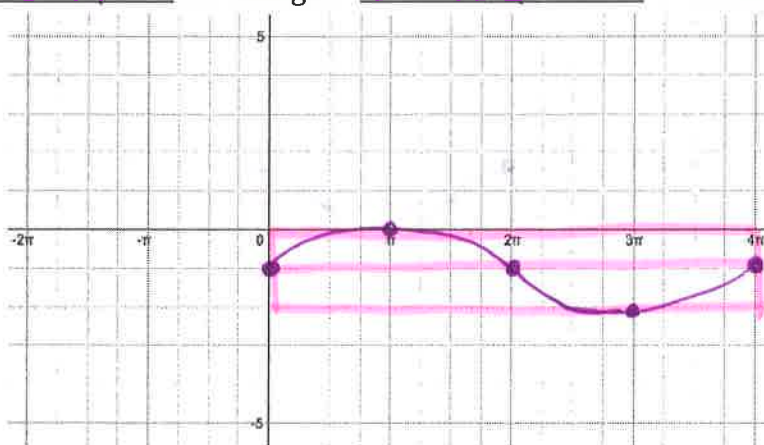
Amplitude = 1

$b = \frac{1}{2}$

Vertical Shift = down 1

Range = $[-2, 0]$

Period = $\frac{2\pi}{\frac{1}{2}} = 4\pi$



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

Horizontal Shift = $\frac{\pi}{1} = \pi$

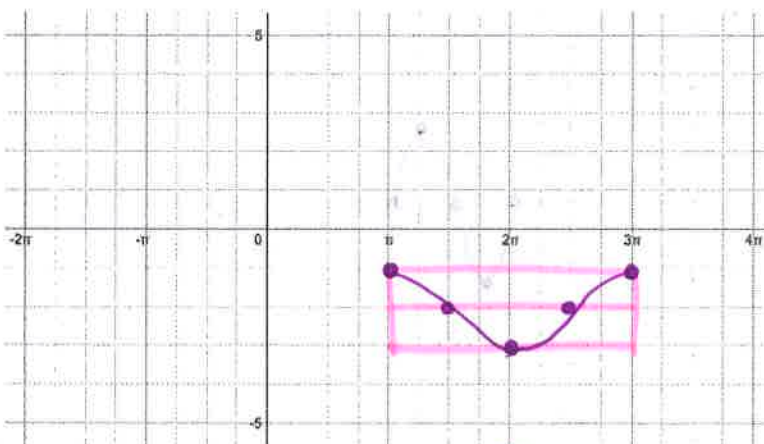
Amplitude = 1

$b = 1$

Vertical Shift = down 2

Range = $[-3, -1]$

Period = $\frac{2\pi}{1} = 2\pi$



11. $y = -2 \cos\left(\frac{1}{4}(x + \pi)\right) - 1 = -2 \cos\left(\frac{1}{4}x + \frac{1}{4}\pi\right) - 1$

Horizontal Shift = $\frac{-\pi/4}{1/4} = -\pi$

Amplitude = 2 * reflected

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

Vertical Shift = down 1

Range = $[-3, 1]$

Period = $\frac{2\pi}{1/4} = 8\pi$

