

7-2 HW

Graph each of the following function by finding key information.

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

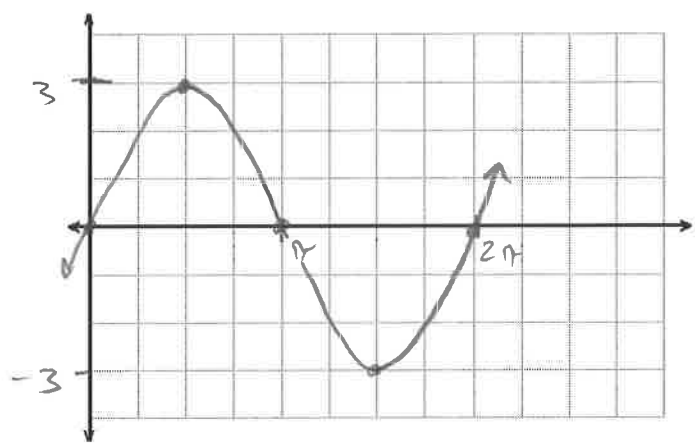
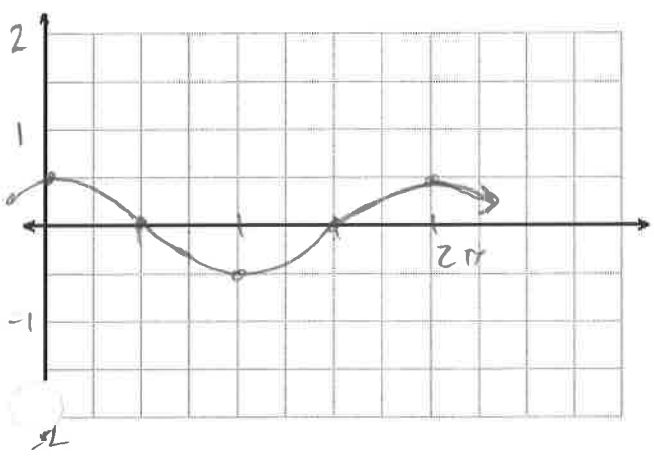
B.)  $y = 3 \sin x$

Transformations: *vertical compression*

Transformations: *vertical stretch*

- Amplitude:  $\frac{1}{2}$
- Period:  $2\pi$
- Midline:  $y=0$
- Domain:  $(-\infty, \infty)$
- Range:  $[-\frac{1}{2}, \frac{1}{2}]$

- Amplitude: 3
- Period:  $2\pi$
- Midline:  $y=0$
- Domain:  $(-\infty, \infty)$
- Range:  $[-3, 3]$



C.)  $y = \sin 2\pi x$

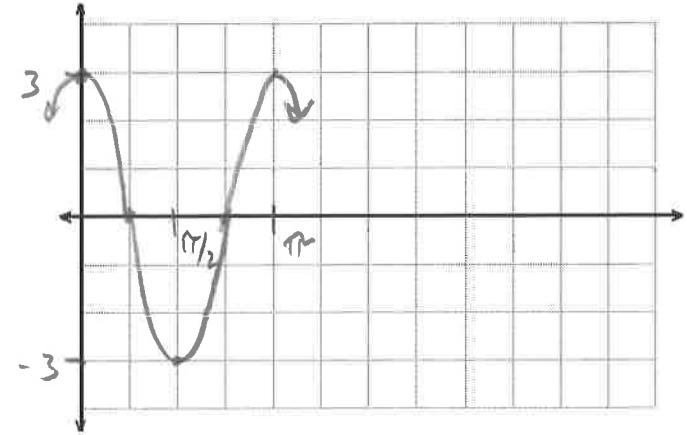
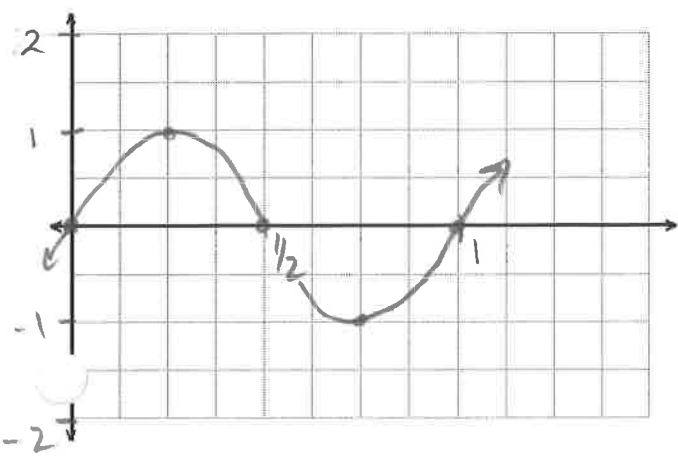
D.)  $y = 3 \cos 2x$

Transformations: *horizontal compression*

Transformations: *vertical stretch, horizontal compression*

- Amplitude: 1
- Period: 1
- Midline:  $y=0$
- Domain:  $(-\infty, \infty)$
- Range:  $[-1, 1]$

- Amplitude: 3
- Period:  $\pi$
- Midline:  $y=0$
- Domain:  $(-\infty, \infty)$
- Range:  $[-3, 3]$



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

Transformations: reflection, horizontal stretch

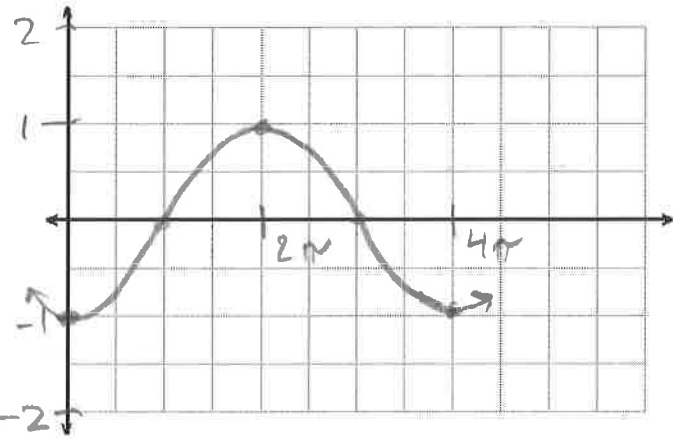
Amplitude: 1

Period:  $4\pi$

Midline:  $y=0$

Domain:  $(-\infty, \infty)$

Range:  $[-1, 1]$



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

Transformations: vertical stretch, horizontal stretch

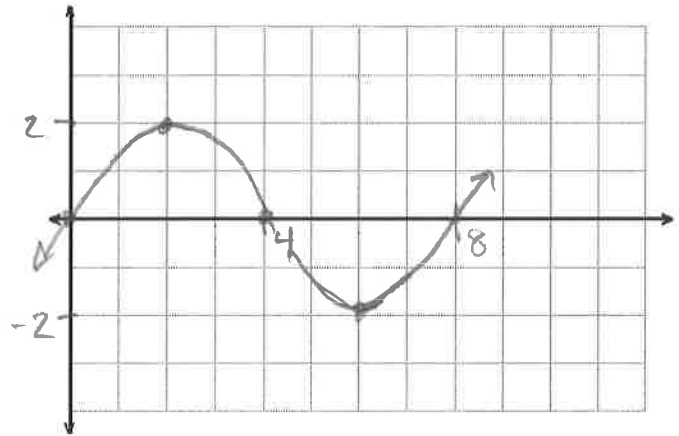
Amplitude: 2

Period: 8

Midline:  $y=0$

Domain:  $(-\infty, \infty)$

Range:  $[-2, 2]$



G.)  $y = \frac{1}{3}\sin\pi x$

Transformations: vertical compression, horizontal compression

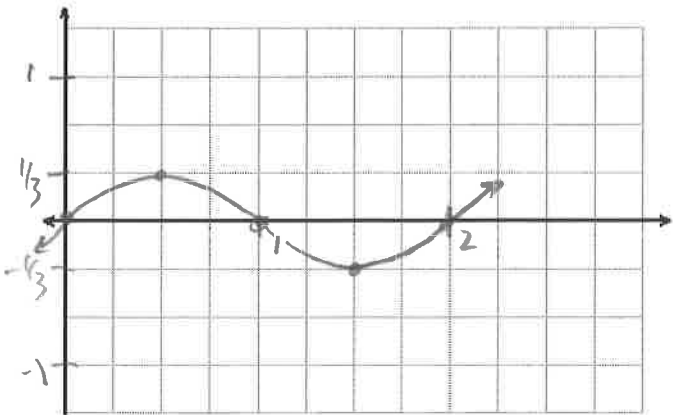
Amplitude:  $\frac{1}{3}$

Period: 2

Midline:  $y=0$

Domain:  $(-\infty, \infty)$

Range:  $[-\frac{1}{3}, \frac{1}{3}]$



H.)  $y = 2.5\cos\frac{\pi}{3}x$

Transformations: vertical stretch, horizontal compression

Amplitude: 2.5

Period: 6

Midline:  $y=0$

Domain:  $(-\infty, \infty)$

Range:  $[-2.5, 2.5]$

