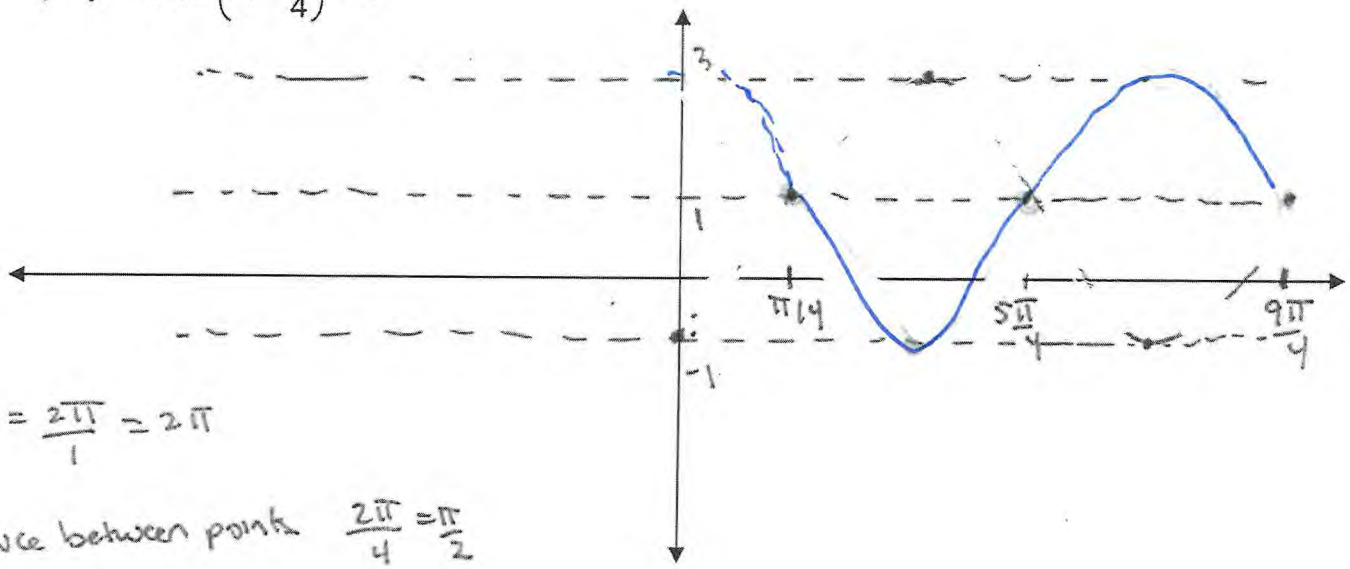
MPC40S Date : Key

## 5.2 Part 1 Homework

Provide a graph of each of the following functions.
Include at least one full period of the function

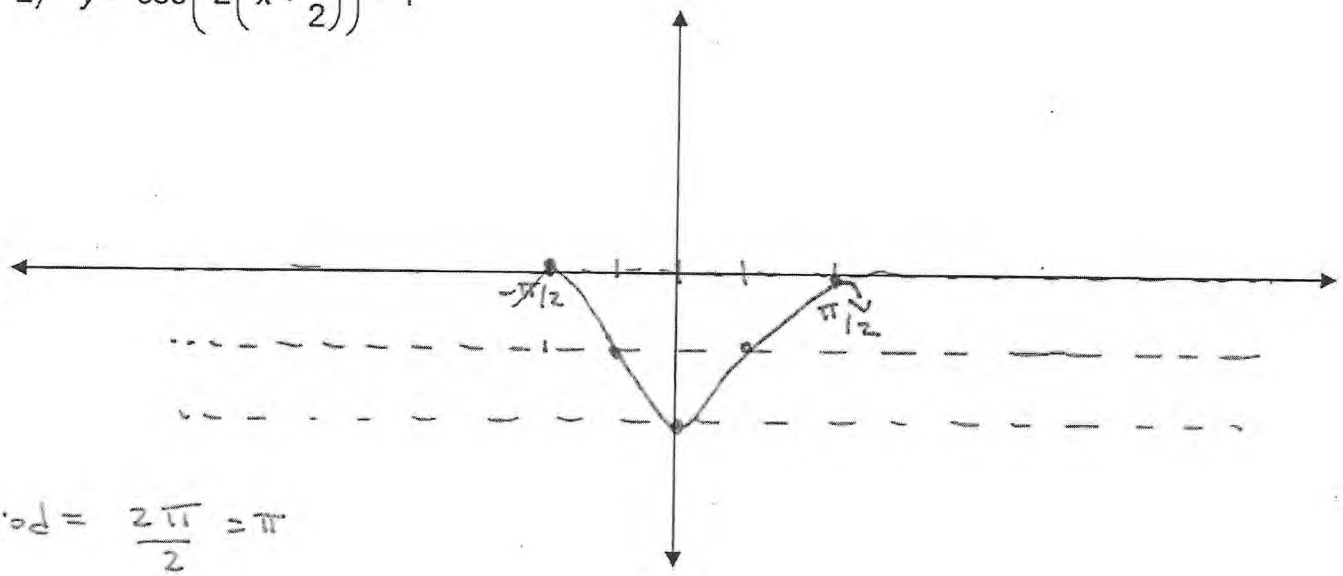
1) $y = -2\sin\left(x - \frac{\pi}{4}\right) + 1$




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

distance between points $\frac{2\pi}{4} = \frac{\pi}{2}$

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




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

points are $\frac{\pi}{4}$ apart.

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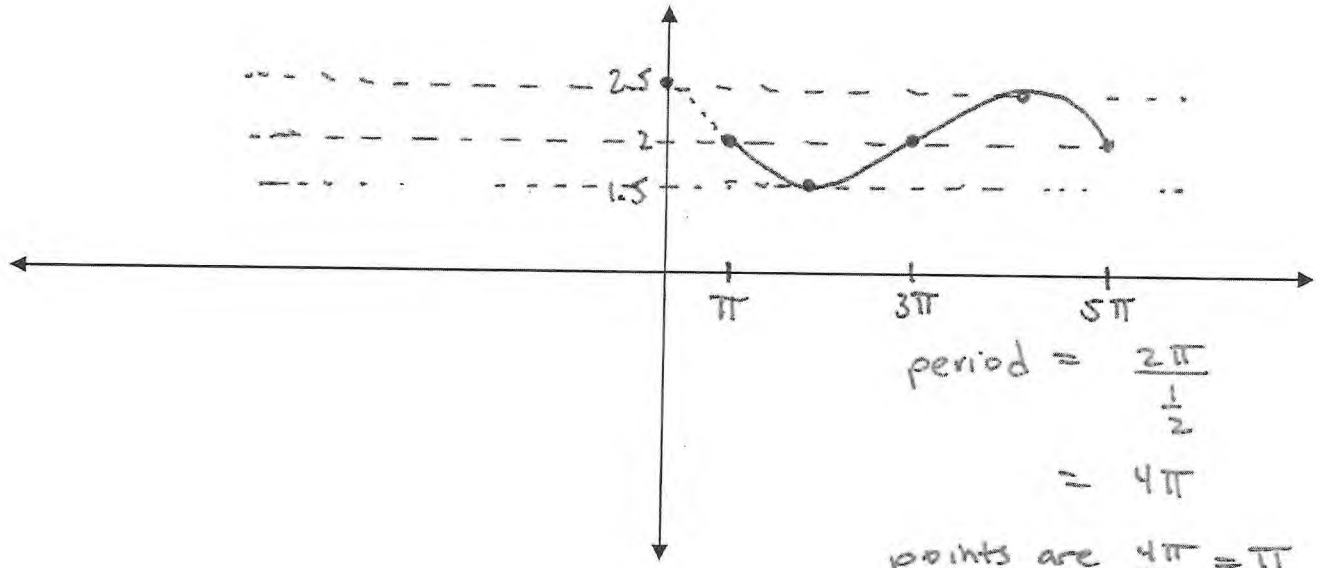
3) $y = -0.5\sin(0.5(x - \pi)) + 2$

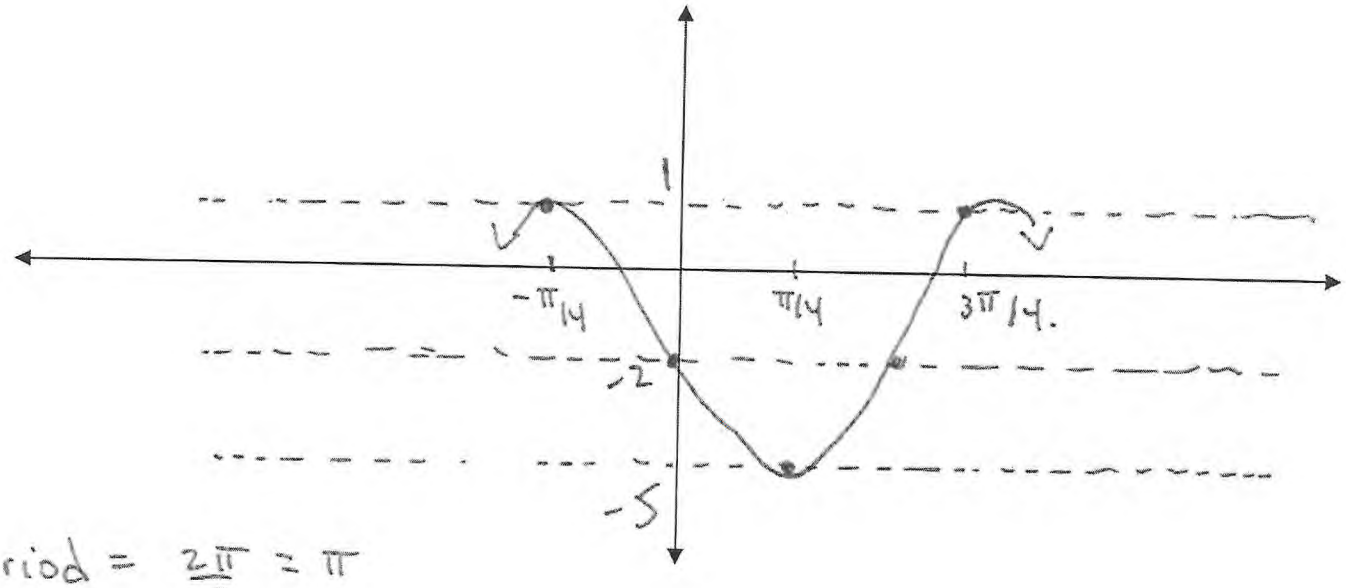



period = $\frac{2\pi}{\frac{1}{2}}$

$= 4\pi$

points are $\frac{4\pi}{4} = \pi$ apart.

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




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

points are $\frac{\pi}{4}$ apart.

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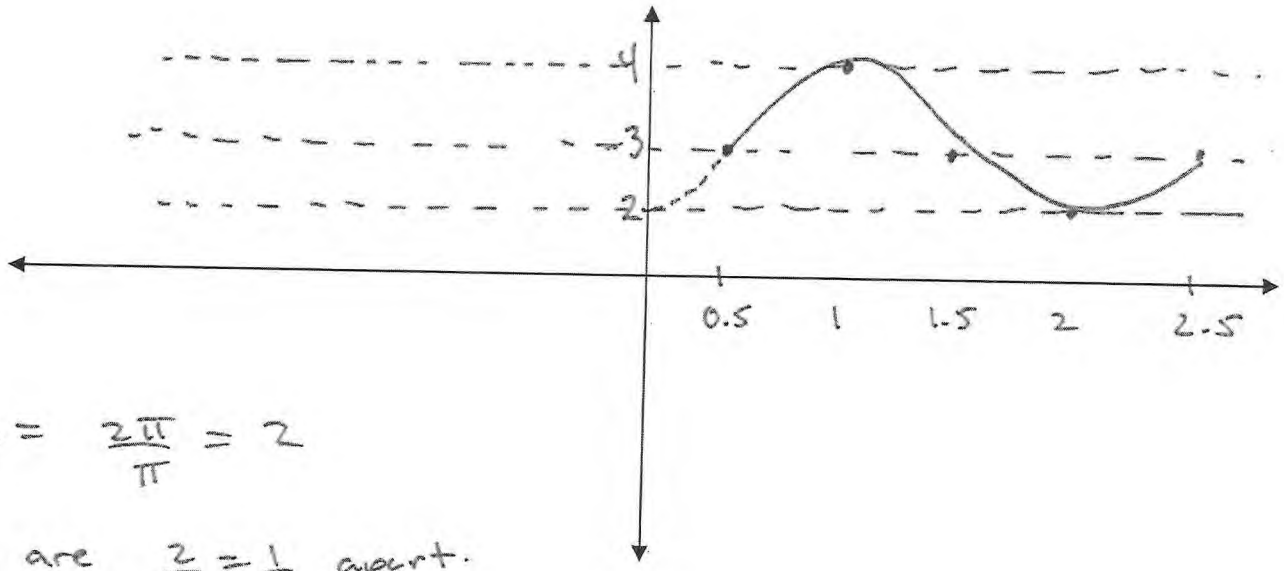
5) $y = \sin(\pi(x - 0.5)) + 3$




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

points are $\frac{2}{4} = \frac{1}{2}$ apart.

## Challenge

Write the equation of the following graph in both the form $y = a\sin(b(x-c)+d$ or $y = a\cos(b(x-c)+d$

* Send me a picture of your answer!! *