Name:_____ Signature:_____ J. number:_____

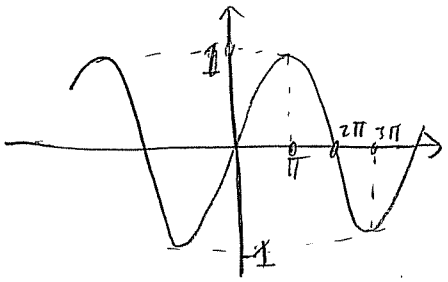
Math 113 - 101 - Quiz 5

CALCULATORS MAY NOT BE USED.

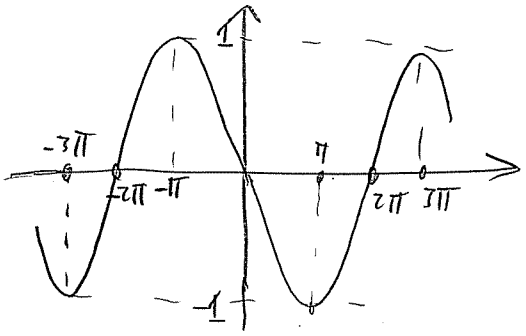
question	1	2	3	total
points available	4	4	7	15
grade				

1. Plot a graph of $y = \sin(-\frac{1}{2}x)$. Your graph should include four critical points and the (x,y)-coordinates of the zeros and the critical points.

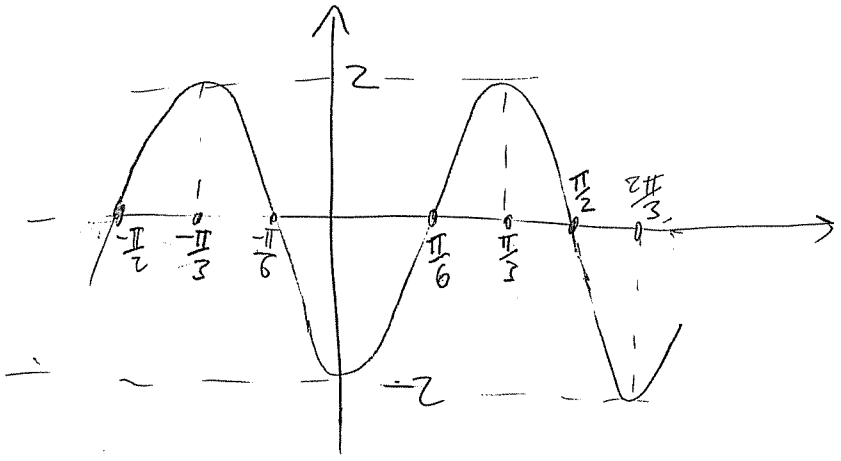
$y = \sin(\frac{1}{2}x)$ is



so $y = \sin(-\frac{1}{2}x)$ is



2. Plot a graph of $y = -2\cos(3x)$. Your graph should include four critical points and the (x,y)-coordinates of the zeros and the critical points.

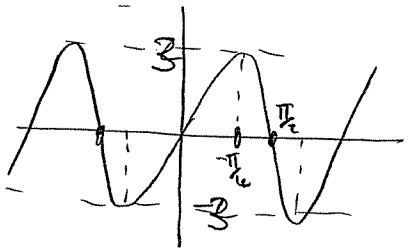


3. a) Plot a graph of $y = 3\sin(2x - \frac{\pi}{2}) - 1$. Your graph should include four critical points and the (x,y)-coordinates of the critical points.

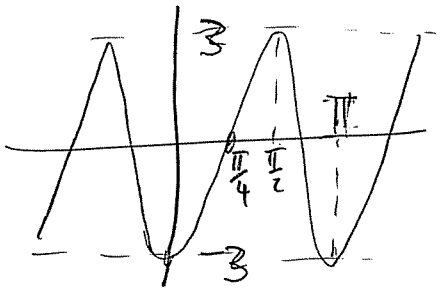
b) State amplitude, period and phase shift.

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

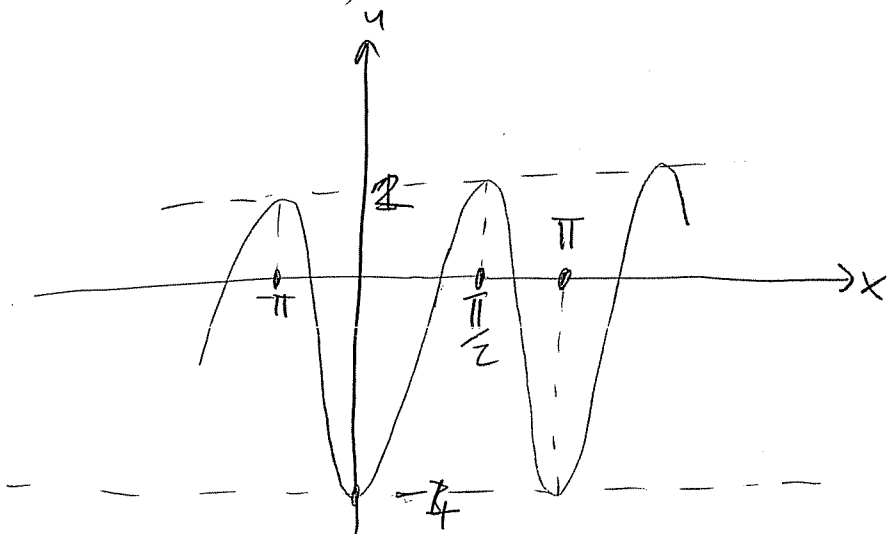
$3\sin(2x)$ is



$3\sin\left(2\left(x - \frac{\pi}{4}\right)\right)$ is



so $3\sin\left(2\left(x - \frac{\pi}{4}\right)\right) - 1$ is



Amp = 3, period = π phase shift = $\frac{\pi}{4}$