Math 1149, Quiz #5, Fall 2013 Name KEY

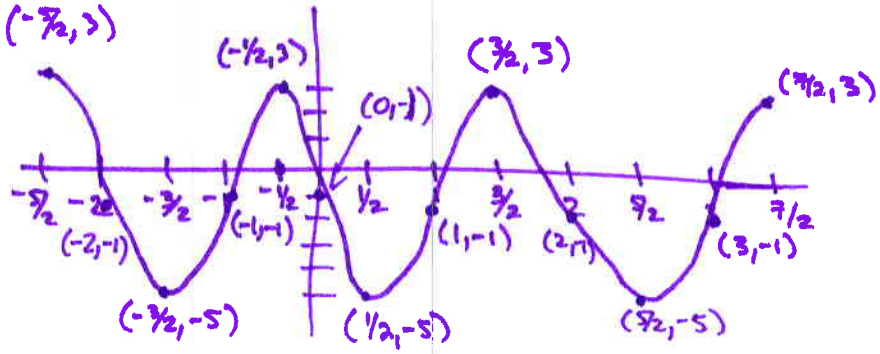
Instructions: Show all work. Use exact answers. Sketch at least two complete cycles on each graph.

1. Sketch the graph of $y = 4\cos\left(\pi x + \frac{\pi}{2}\right) - 1$. Be sure to clearly state the amplitude, the period, and the phase shift. Label at least 5 points.

x	$-\frac{1}{2}$	0	$\frac{1}{2}$	1	$\frac{3}{2}$
X	0	$\frac{1}{2}$	1	$\frac{3}{2}$	2
X	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
y	1	0	-1	0	1
y	4	0	-4	0	4
y	3	-1	-5	-1	3

$A = 4 \quad T = \frac{2\pi}{\pi} = 2$

phase shift $= -\frac{\pi/2}{\pi} = -\frac{1}{2}$



2. Sketch the graph of $y = -2\csc(3x)$. Label the local minima and maxima and any asymptotes.

x	0	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$
X	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
Y	UND	1	UND	-1	UND.
Y	UND	-2	UND	2	UND

"A" $= |-2| = 2$

$T = \frac{2\pi}{3} = \frac{2\pi}{3}$