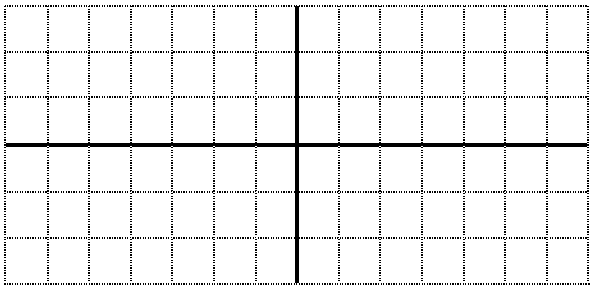
Math Analysis Honors – Worksheet 82 **Graphs of Sine and Cosine Functions**

Notes

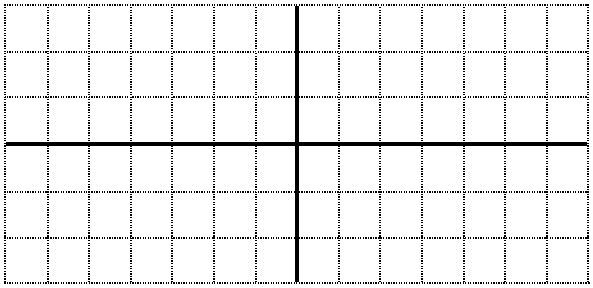
The Sine Function - $f(x)=a\sin(bx+c)+d$



Domain:
Range:

Amplitude:
Period:
Frequency:
Phase Shift(Translation):
Vertical Shift(Translation):

The Cosine Function - $f(x)=a\cos(bx+c)+d$



Domain:
Range:

Amplitude:
Period:
Frequency:
Phase Shift(Translation):
Vertical Shift(Translation):

Find the amplitude of the function and use the language of transformations to describe how the graph of the function is related to its "parent" function (either $y=\cos x$ or $y=\sin x$). Sketch a graph of the function without using your graphing calculator. Graph the function in the window $[-2\pi,2\pi]$ by $[-4,4]$.

1) $y=\frac{2}{3}\sin x$	2) $y=-4\cos x$	3) $y=-0.75\sin x$	4) $y=2\cos x$

Find the period of the function and use the language of transformations to describe how the graph of the function is related to its "parent" function. Sketch a graph of the function without using your graphing calculator. Graph the function in the window $[-2\pi,2\pi]$ by $[-4,4]$

5) $y=3\cos 2x$	6) $y=-\sin(4x)$	7) $y=\cos 3x$	8) $y=2\sin(-0.4x)$

Find the amplitude, period, and frequency of the function and sketch a graph of the function without using your graphing calculator. Graph the function in a window of $[-3\pi,3\pi]$ by $[-4,4]$.

9) $y=2\cos\frac{x}{3}$	10) $y=3\cos 2x$	11) $y=-\frac{1}{4}\sin\left(\frac{x}{3}\right)$	12) $y=-\frac{3}{2}\sin 2x$