Math Analysis
Sec. 4.5

Name Key

Graph the following. Make sure you find the amplitude, period, interval, start , and end.

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

A/refl.: 2 / no

P: π

PS: $+\frac{\pi}{2}$

Start: $\frac{\pi}{2}$

End: $\frac{3\pi}{2}$

Int.: $\frac{\pi}{2}, \pi, \frac{3\pi}{2}$

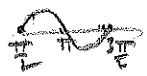
VS: 1

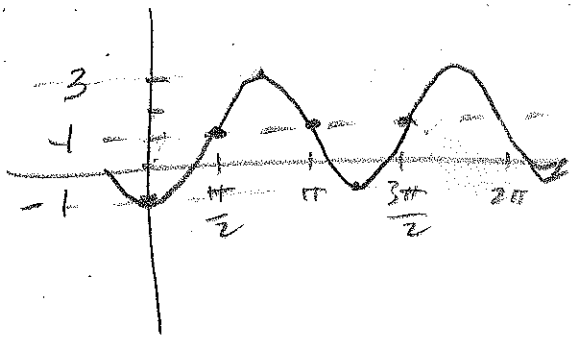
$0 \le 2(x - \frac{\pi}{2}) \le 2\pi$

$0 \le 2x - \pi \le 2\pi$

$\pi \le 2x \le 2\pi + \pi$

$\frac{\pi}{2} \le x \le \pi + \frac{\pi}{2}$





2. $y = \cos \pi x - .5$

A/refl.: 1 / no

P: 2

PS: none

Start: 0

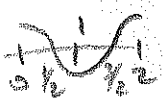
End: 2

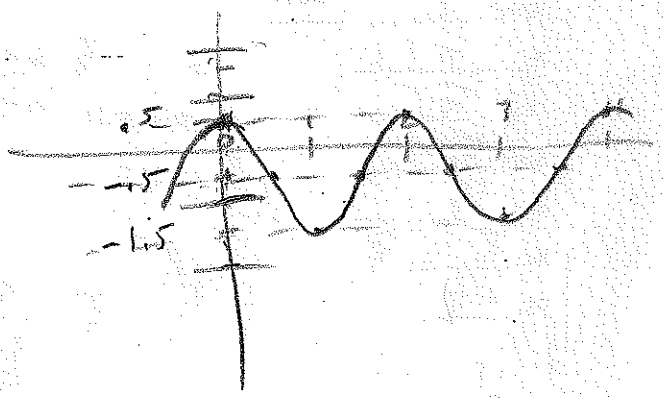
Int.: $\frac{1}{2}, \frac{3}{2}$

VS: $-.5$

$0 \le \pi x \le 2\pi$

$0 \le x \le 2$





3. $y = 2\cos\frac{x}{3}$

A/refl.: 2 / no

P: 6π

PS: none

Start: 0

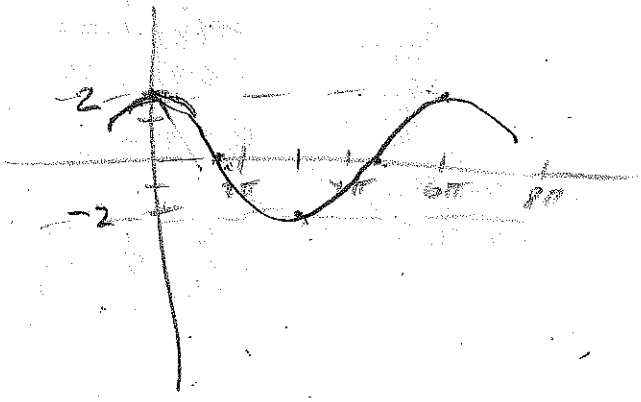
End: 6π

Int.: $\frac{3\pi}{2}, 3\pi, \frac{9\pi}{2}$

VS: 0

$0 \le \frac{x}{3} \le 2\pi$

$0 \le x \le 6\pi$



4. $y-4=-2\cos(3x)$ $y=4-2\cos 3x$

A/refl.: 2 / yes

P: $\frac{2}{3}\pi$

PS: none

Start: 0

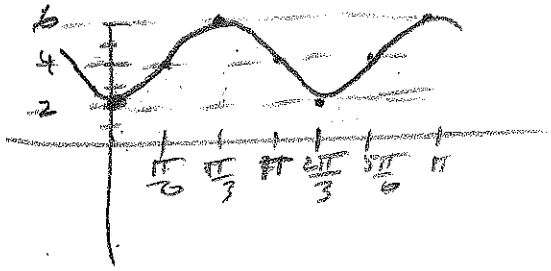
End: $\frac{2\pi}{3}$

Int.: $\frac{\pi}{6}, \frac{\pi}{2}$

VS: $+4$

$0 < 3x \leq 2\pi$

$0 < x \leq \frac{2}{3}\pi$



5. $y=\frac{3}{2}+\frac{5}{2}\sin 2\left(x-\frac{\pi}{4}\right)$

A/refl.: $\frac{5}{2}$ / none

P: π

PS: $\frac{\pi}{4}$

Start: $\frac{\pi}{4}$

End: $\frac{5\pi}{4}$

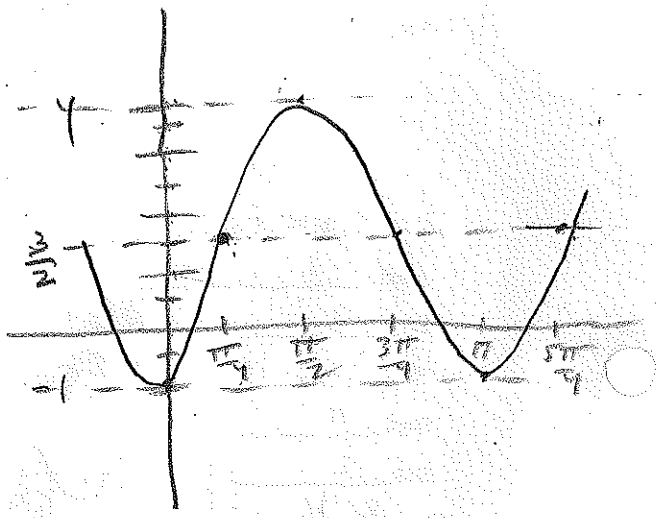
Int.: $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}$

VS: $4, \frac{3}{2}$

$0 \leq 2x-\frac{\pi}{2} \leq 2\pi$

$\frac{\pi}{2} \leq 2x \leq 2\pi+\frac{\pi}{2}$

$\frac{\pi}{4} \leq x \leq \pi+\frac{\pi}{4}$



6. $y=-2\sin(4x+\pi)$

A/refl.: 2 / yes

P: $\frac{\pi}{2}$

PS: $-\frac{\pi}{4}$

Start: $-\frac{\pi}{4}$

End: $\frac{\pi}{4}$

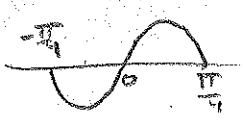
Int.: $-\frac{\pi}{4}, 0, \frac{\pi}{4}$

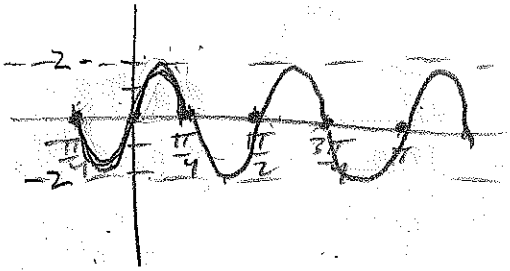
VS: 0

$0 \leq 4x+\pi \leq 2\pi$

$-\pi \leq 4x \leq 2\pi-\pi$

$-\frac{\pi}{4} \leq x \leq \frac{\pi}{2}-\frac{\pi}{4}$





Math Analysis
Sec. 4.5

Name_____

Graph the following. Make sure you find the amplitude, period, interval, start , and end.

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

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____

2. $y = \cos \pi x - .5$

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____

3. $y = 2\cos \frac{x}{3}$

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____

4. $y-4=-2\cos 3x$

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____

5. $y=\frac{3}{2}+\frac{5}{2}\sin 2\left(x-\frac{\pi}{4}\right)$

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____

6. $y=-2\sin\left(4x+\pi\right)$

A/refl.:_____/_____

P:_____

PS:_____

Start:_____

End:_____

Int.:_____

VS:_____