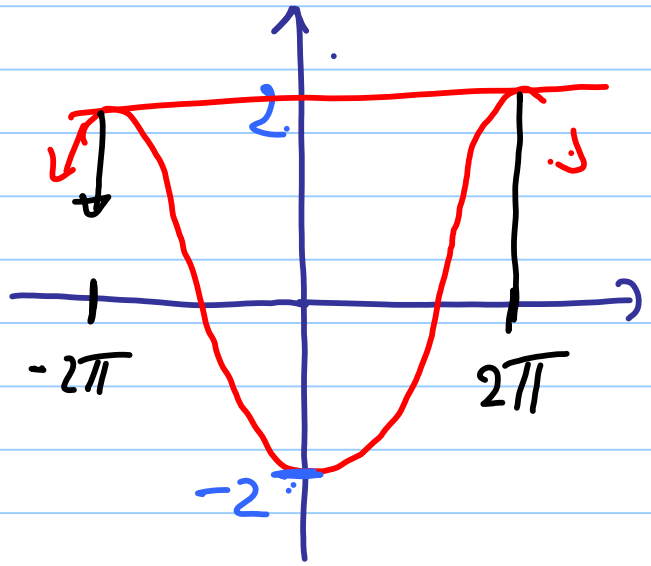
Note Title 11/5/2010

§6.8 #42



$y = A\sin Bx$ or $y = A\cos Bx$

Graph does not pass through $(0,0)$ so use

$y = A\cos Bx$

Amplitude $|A| = 2$

period $= \frac{2\pi}{B} = 4\pi$

$2\pi = 4\pi B$

$\frac{2\pi}{4\pi} = B$

$\boxed{\frac{1}{2} = B}$

$y = A\cos\frac{1}{2}x$

$y = -2\cos\frac{1}{2}x$

$y(0) = A\cos\left(\frac{1}{2}(0)\right)$

$-2 = A(1)$

#28 $y = -2\cos(\pi x)$

Amplitude $|A| = 2$

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

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

Divide into 4 parts (equal) $\quad \frac{2}{4} = \frac{1}{2}$

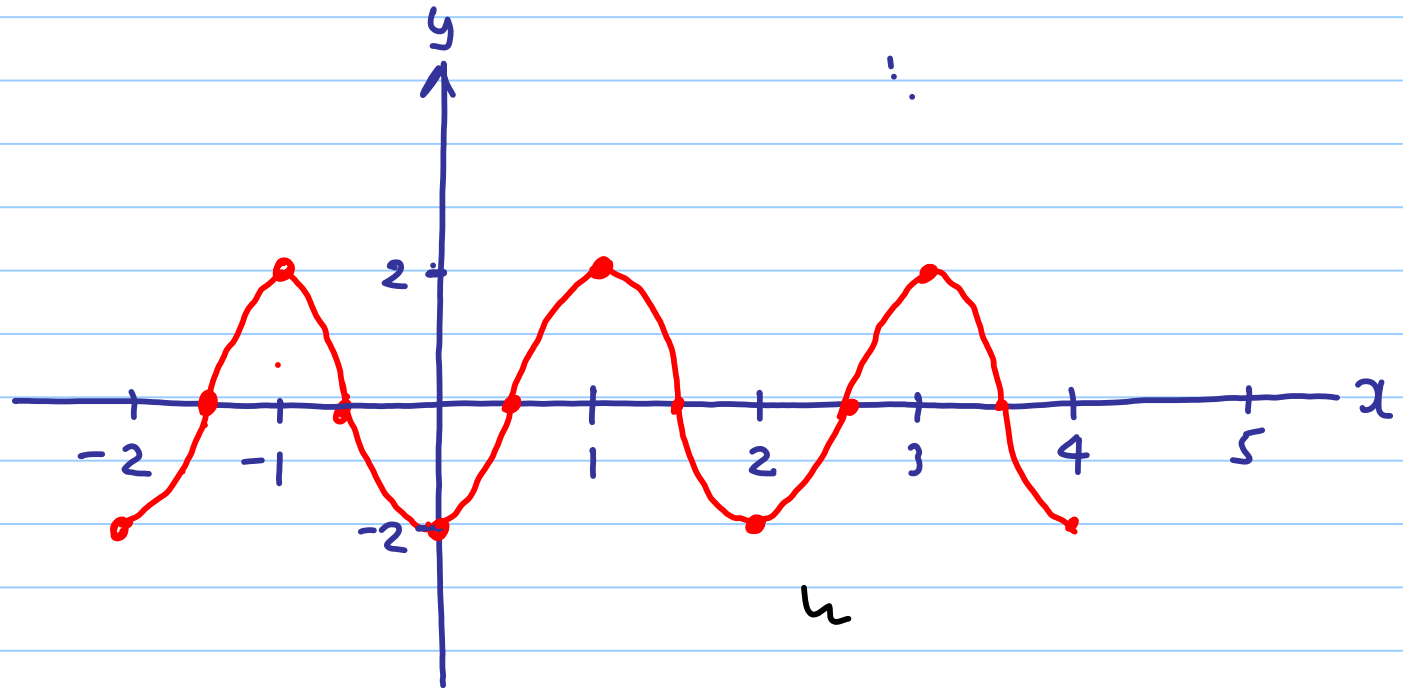
Start at 0:

$$0 \qquad \frac{1}{2} \qquad 1 \qquad \frac{3}{2} \qquad 2$$

Table of values:

x	0	$\frac{1}{2}$	1	$\frac{3}{2}$	2
$y = -2\cos(\pi x)$	-2	0	2	0	-2

Plot



#53] $y = 6 \sin[-\pi(x+2)]$

amplitude $|A| = 6$ period $= \frac{2\pi}{B}$

$\frac{C}{B} = \frac{-2\pi}{-\pi}$ . .

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

$= -2$

phase shift $= -\frac{C}{B}$

$= -2$

$y = A \sin(B(x + \frac{C}{B}))$

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

$y = A \sin(Bx + C)$

Tangent

x.	$\sin x$	$\cos x$	$\tan x$
$-\pi/3$			
$-\pi/4$			
$-\pi/6$	$-\frac{1}{2}$	$\sqrt{3}/2$	$-\sqrt{3}/3$
$\pi/6$	$1/2$	$\sqrt{3}/2$	$\frac{1}{\sqrt{3}} = \sqrt{3}/3$
$\pi/4$	$\sqrt{2}/2$	$\sqrt{2}/2$	1
$\pi/3$	$\sqrt{3}/2$	$1/2$	$\sqrt{3}$