

1. Convert each of the following:

- a)  $85^\circ$  to radians      b)  $\frac{7\pi}{8}$  radians to degrees      c)  $2\pi^\circ$  to radians      d)  $\frac{\pi}{5}$  radians to degrees

$$\frac{85\pi}{180} = \frac{17\pi}{36}$$

$$\frac{7 \cdot 180}{8} = 157.5^\circ$$

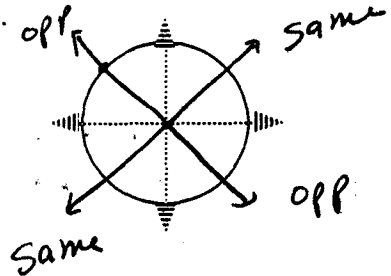
$$\frac{2\pi^2}{180} = \frac{\pi^2}{90}$$

$$\frac{180}{5} = 36^\circ$$

2. Find the period and amplitude for  $y = -41\cos(3x) + 7$ .      Period =  $\frac{120^\circ}{3}$  or  $\frac{2\pi}{3}$       Amplitude = 41
3. Is  $y = \sin x$  the parent graph of  $y = \cos x$ ? Explain

they are kind of the same graph either could be parent of other

4. In the unit circle, sketch one angle whose sin is equal to its cosine and sketch another angle whose sin and cosine are the opposite (same number but different signs) – label the measures of these angles in degrees and radians.



- $45^\circ, 135^\circ, 225^\circ, 315^\circ$   
 $\pi/4, 3\pi/4, 5\pi/4, 7\pi/4$

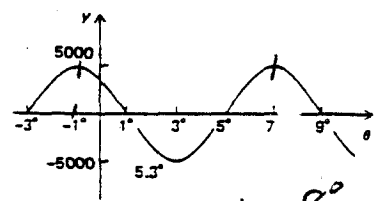
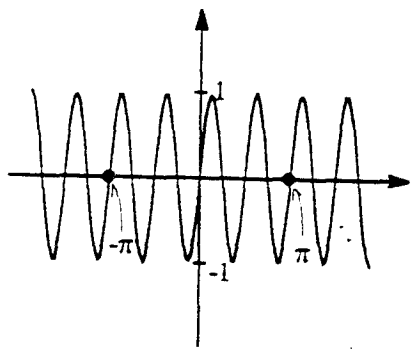
5. Write an equation of a sine function that has an amplitude of 4, a period of  $90^\circ$  and no x-intercepts.

$$y = 4\sin 4x + 5$$

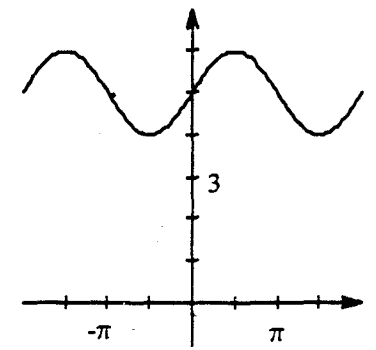
+4 <math>K</math> <math>L</math> H

6. Write an equation for each of the following:

- a)  $y = \sin 4x$       b)  $y = 5000 \cos 45(x + 1)$       c)  $y = \sin x + 5$

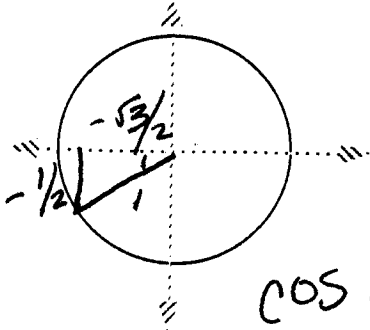


period =  $8^\circ$   
 $\frac{360}{8} = 45$



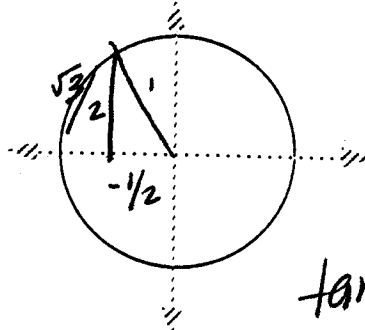
7. Use special right triangle relationships to find the exact value of the following:

a)  $\cos 210^\circ$



$$\cos 210 = -\frac{\sqrt{3}}{2}$$

b)  $\tan 120^\circ$

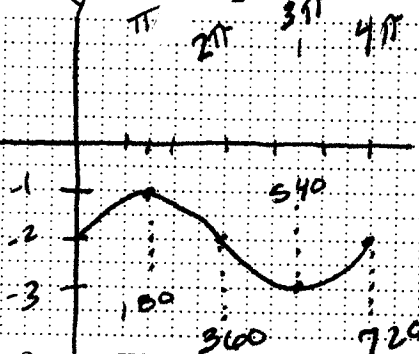


$$\tan 120 = \frac{\sqrt{3}/2}{-1/2}$$

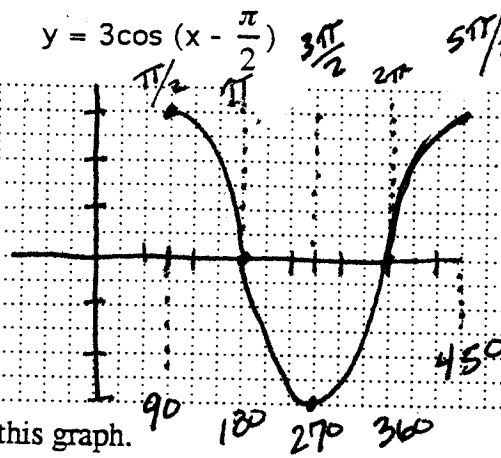
$$\tan 120 = -\sqrt{3}$$

8. Sketch one cycle of each of the following graphs:

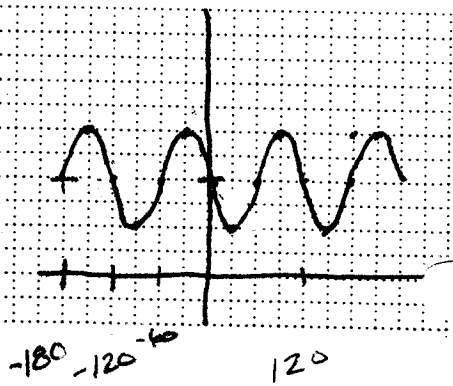
a)  $y = \sin \frac{1}{2}x - 2$



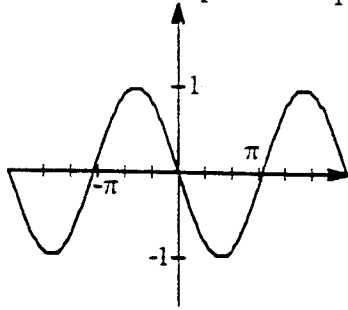
b)  $y = 3\cos(x - \frac{\pi}{2})$



c)  $y = 2\sin 3(x + 180) + 4$



9. Write TWO possible equations for this graph.



$$-\sin x$$

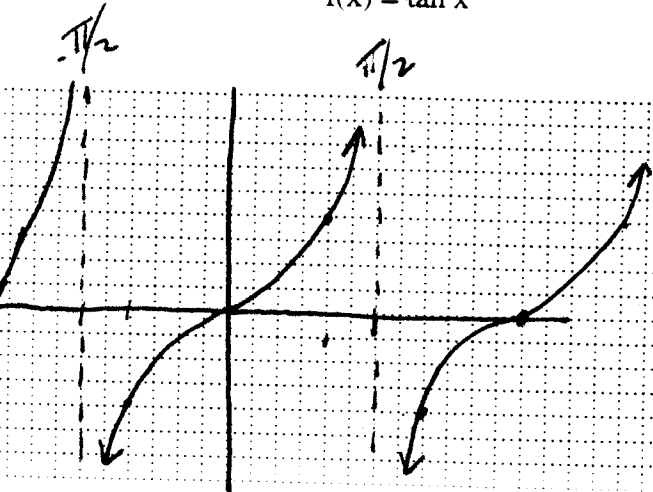
$$\sin(x - \pi)$$

$$-\cos(x - \pi/2)$$

$$\cos(x + \pi/2)$$

10. Draw a clear and accurate graph of

$f(x) = \tan x$



$j(x) = \tan(2x)$

