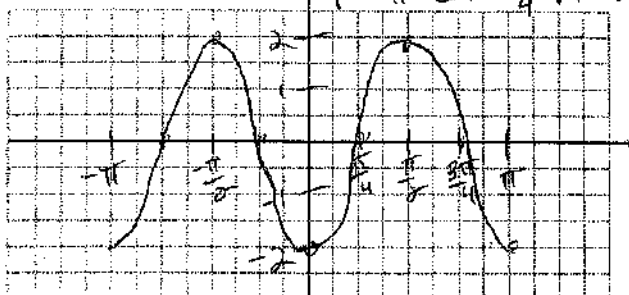


69.

$$y = -2 \cos 2x$$

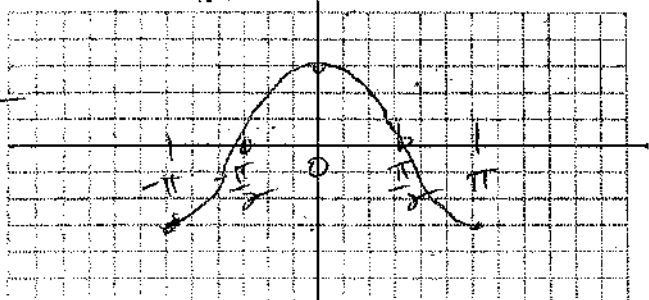
$P = \pi$   $Q.P. = \frac{\pi}{4}$   $A = 2$



$$y = -3 \cos(x + \pi)$$

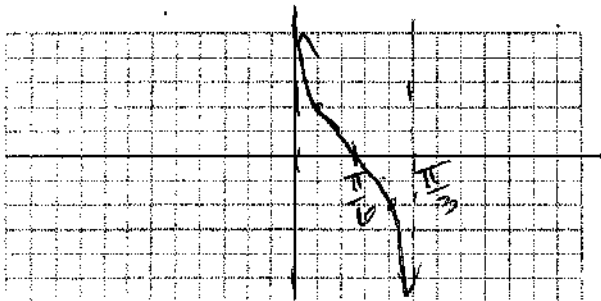
$P = 2\pi$   $Q.P. = \frac{\pi}{2}$   $A = 3$   
 $P.S. = -\pi$

75.

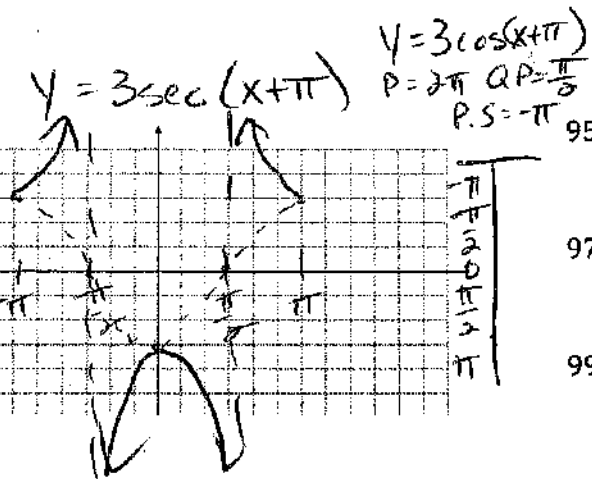


$$y = 2 \cot 3x \quad 0 < x < \frac{\pi}{3}$$

87.



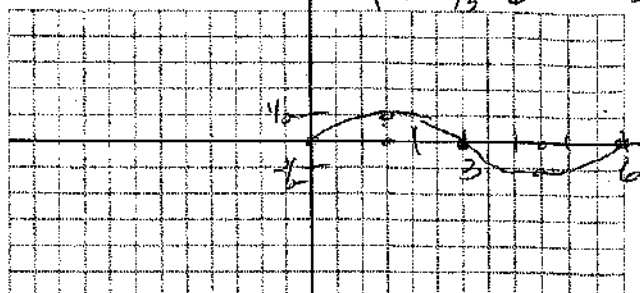
92.



71.

$$y = \frac{1}{2} \sin \frac{\pi}{3} x$$

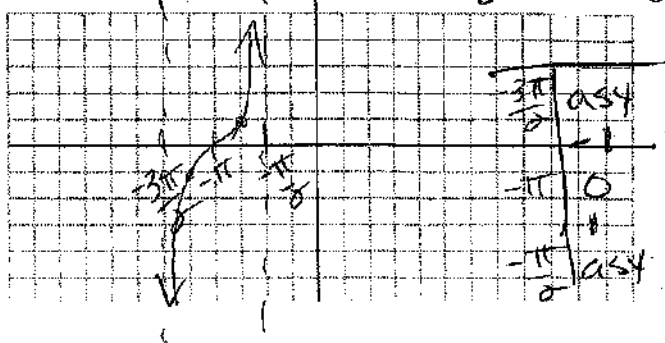
$A = \frac{1}{2}$   
 $P = \frac{2\pi}{\pi/3} = 6$   $Q.P. = \frac{3\pi}{2}$



85.

$$y = \tan(x + \pi)$$

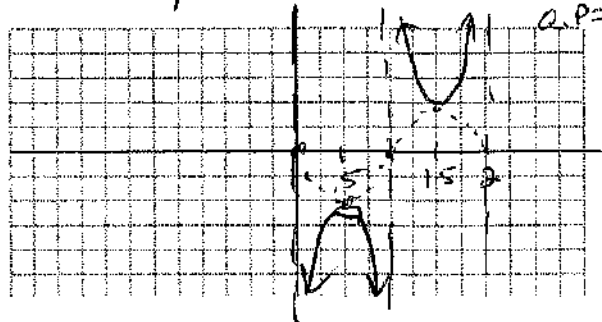
$-\frac{\pi}{2} < x + \pi < \frac{\pi}{2}$   
 $-\frac{3\pi}{2} < x < -\frac{\pi}{2}$



91.

$$y = -2 \csc \pi x$$

$P = 2$   $Q.P. = 5$



95.

$$\cos^{-1} 1 = 0$$

97.

$$\sin^{-1} \left( -\frac{\sqrt{3}}{2} \right) = -\frac{\pi}{3}$$

99.

$$\tan^{-1} \left( -\frac{\sqrt{3}}{3} \right) = -\frac{\pi}{6}$$

Also study graphs of  $\sin^{-1} x$   $\cos^{-1} x$   $\tan^{-1} x$

101.  $\sin(\cos^{-1} 0)$   
 $\sin\left(\frac{\pi}{2}\right) = \boxed{1}$

105.  $\cos(\tan^{-1} \frac{3}{4})$

$\tan \theta = \frac{3}{4}$   
 $\cos \theta = \boxed{\frac{4}{5}}$

107.  $\tan[\sin^{-1}(-\frac{3}{5})]$

$\sin \theta = -\frac{3}{5}$   
 $\tan \theta = \boxed{-\frac{3}{4}}$

111.  $\sin^{-1}(\sin \frac{2\pi}{3})$   
 $\sin^{-1}(\frac{\sqrt{3}}{2}) = \boxed{\frac{\pi}{3}}$

113.  $\cos(\tan^{-1} \frac{x}{2})$

$x^2 + 2^2 = a^2$   
 $a = \sqrt{x^2 + 4}$   
 $\cos \theta = \boxed{\frac{2}{\sqrt{x^2 + 4}}}$

115. 
 $B = \boxed{67.3^\circ}$   
 $\cos 22.3^\circ = \frac{b}{10}$   
 $b = \boxed{9.25}$   
 $\sin 22.3^\circ = \frac{a}{10}$   
 $a = \boxed{3.79}$

119. 
 $\tan 25.6 = \frac{x}{80}$   
 $x = 80 \tan 25.6$   
 $x = \boxed{38.3 \text{ ft}}$

123. 
 $\boxed{S 35^\circ W}$

125. 
 $a) 850^2 + 960^2 = c^2$   
 1282.2 miles

127.  $d = \frac{1}{2} \sin 4t$

a)  $\frac{1}{2} \text{ cm}$   
 b)  $f = \frac{1}{\pi/2} = \frac{2}{\pi} \text{ cycles per second}$   
 c)  $P = \frac{\pi}{2} \text{ seconds}$

128.  $d = 30 \cos \pi t$

$\tan \theta = \frac{960}{850}$   
 $\theta = 48.5^\circ$   
 $\theta = 106.5^\circ$

$\boxed{S 73.5^\circ E}$