

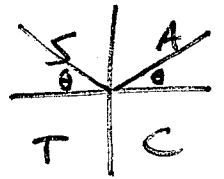
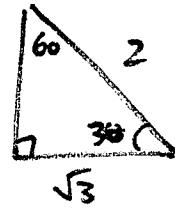
1.6

33)  $\csc x = 2 \quad 0 < x < 2\pi$

$\sin x = \frac{1}{2}$

$x = \frac{\pi}{6}$

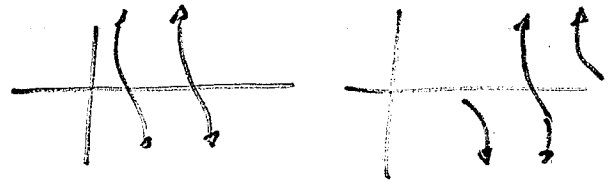
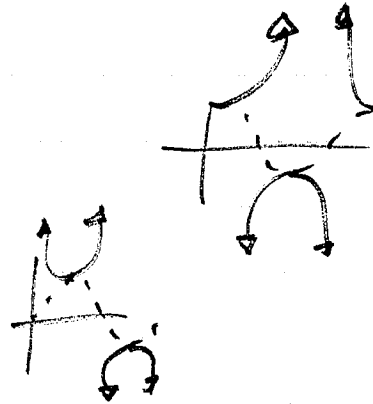
$\pi - \frac{\pi}{6} = \frac{5\pi}{6}$



15) (a)  $y = \sec x$   
 $[-2\pi, 2\pi] \quad [0, 4\pi]$

(b)  $y = \csc x$

(c)  $y = \cot x$   
 $[0, 2\pi]$



43)  $y = A \sin B(x+C) + D$   
 $y = A \cos B(x+C) + D$

$\begin{matrix} 65 & 2 & 40 \\ \rightarrow & 25 & 40 \\ -15 & & 40 \end{matrix}$

$y = -40 \cos \frac{\pi}{6}(x) + 25$

$\frac{2\pi}{B} = 12$

$\frac{2\pi}{12} = B$

$\frac{\pi}{6} = B$

44) (a) 65, -15

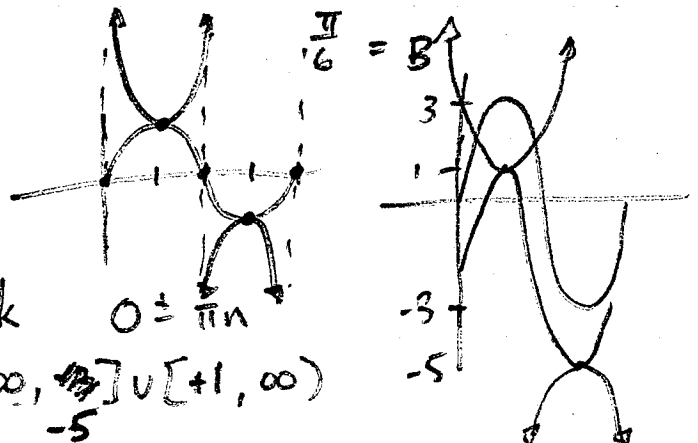
(b) 25

11)  $y = 3 \csc(3x + \pi) - 2$   
 $y = 3 \csc 3(x + \frac{\pi}{3}) - 2$

(a) period =  $\frac{2\pi}{3}$

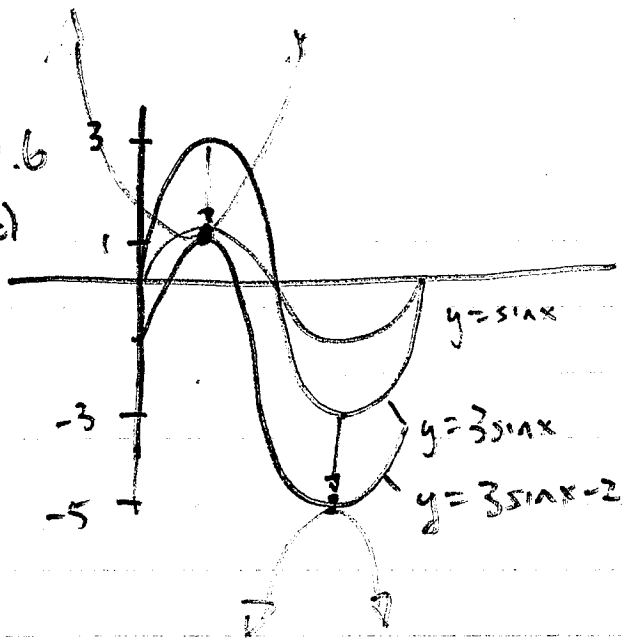
(b)  $x \neq 0, \pi, 2\pi, 3\pi \quad 0 \neq \pi k \quad 0 \neq \frac{\pi}{3}n$

(c)  ~~$[-1, 1] \cup [2, 20]$~~   $\rightarrow (-\infty, -1] \cup [2, \infty)$



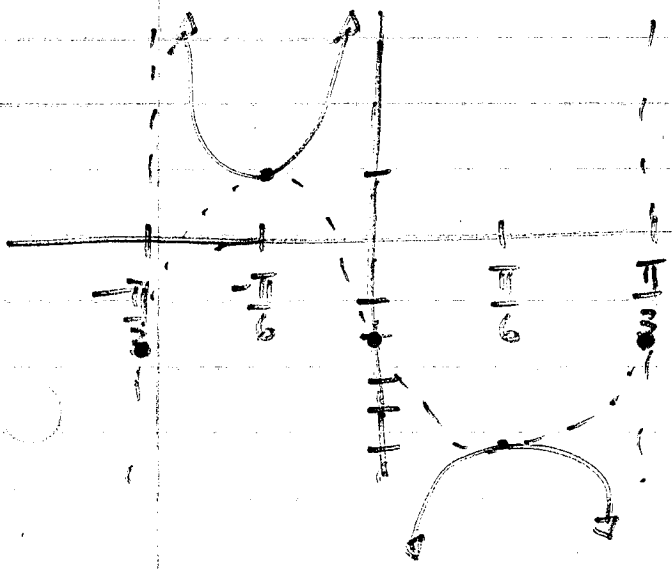
11  
21  
48

11) (a)



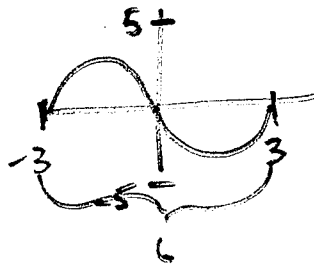
$$(-\infty, -5] \cup [1, \infty)$$

$0/3$	$\pi/3$	$\pi/3$	$\frac{2\pi}{3}$	$2\pi/3$
$0$	$1$	$1$	$2$	$2$

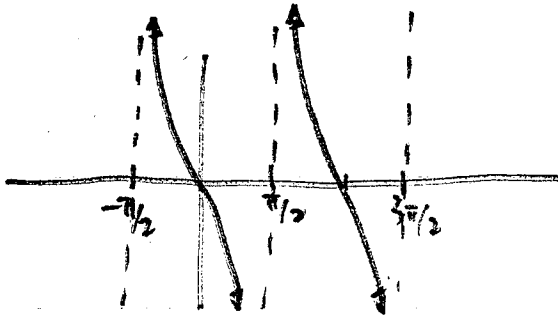


1.6

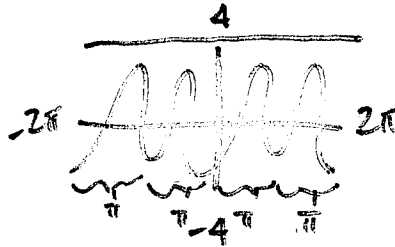
21) (a)  $y = -4 \sin \frac{\pi}{3} x$   
 period =  $\frac{2\pi}{\pi/3} = \frac{2\pi}{1} \cdot \frac{3}{\pi} = 6$   
 amplitude = 4



48)



19)  $y = -3 \cos 2x$   
 period =  $\frac{2\pi}{2} = \pi$   
 amplitude = 3



31)  $\tan x = 2.5$      $0 \leq x \leq 2\pi$

$x \approx 1.190$

$+ \frac{\pi}{1}$   
 $4.332$

35)  $\sin x = -.5$      $-\infty < x < \infty$

$x = \frac{-\pi}{6} \pm 2\pi n$

$\frac{\pi}{6} + \pi = \frac{7\pi}{6} \pm 2\pi n$

