

12) $\cos x = 0, 0 \leq x \leq 4\pi$

$\frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{2}, \frac{7\pi}{2}$

15) $\sin x = -1, 0 \leq x \leq 4\pi$

$\frac{3\pi}{2}, \frac{7\pi}{2}$

18) $\sin x = 1, -2\pi \leq x \leq 2\pi$

$\frac{\pi}{2}, \frac{5\pi}{2}$

21) $\tan x$ not defined, $0 \leq x \leq 4\pi$

$\tan = \frac{\sin}{\cos} \rightarrow 0$
 $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{2}, \frac{7\pi}{2}$

24) $\sec x$ not defined, $0 \leq x \leq 4\pi$

$\frac{1}{\cos} \rightarrow 0$
 $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{2}, \frac{7\pi}{2}$

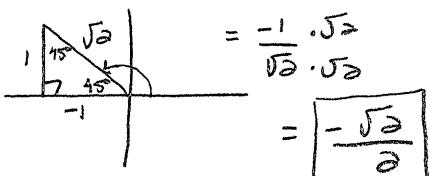
39) $\sec 1.432 = \frac{1}{\cos 1.432} = 7.228$

42) $\csc (-3.109) = \frac{1}{\sin -3.109} = -30.69$

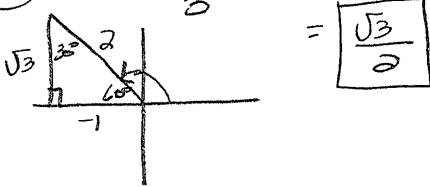
45) $\cot (-0.633332) = \frac{1}{\tan (-0.633332)} = -27.99$

48) $\sec (-1.5) = \frac{1}{\cos -1.5} = 14.14$

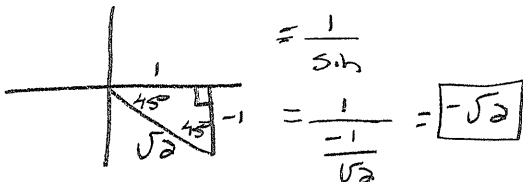
53) $\cos \frac{3\pi}{4} \rightarrow 135^\circ$



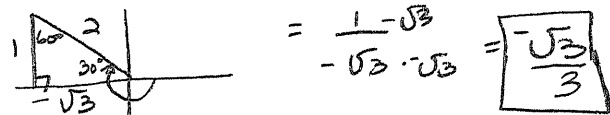
54) $\sin \frac{2\pi}{3} \rightarrow 120^\circ$



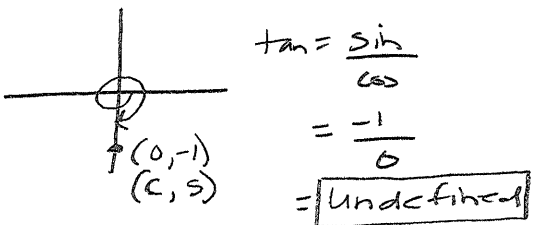
55) $\csc \frac{\pi}{4} \rightarrow -45^\circ$



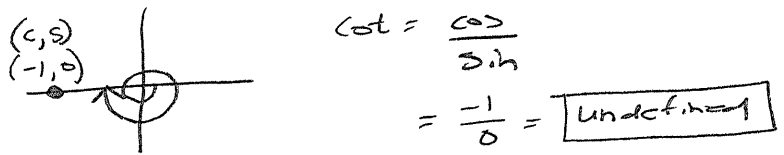
56) $\tan \frac{7\pi}{6} \rightarrow -210^\circ$



57) $\tan \frac{5\pi}{2} \rightarrow -450^\circ$



58) $\cot -3\pi$



67) $\sin x \csc x$

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

- 59) a) 0.9525
- b) 0.9525
- c) 0.9525
- d) 0.9525

- 60) a) -0.6379
- b) -0.6379
- c) -0.6379
- d) -0.6379

68) $\cos x \sec x$

$\cos x \cdot \frac{1}{\cos x} = \frac{\cos x}{\cos x} = 1$

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69) $\cot x \sec x$

$$\frac{\cos x}{\sin x} \cdot \frac{1}{\cos x} = \frac{1}{\sin x} = \boxed{\csc x}$$

70) $\tan x \csc x$

$$\frac{\sin x}{\cos x} \cdot \frac{1}{\sin x} = \frac{1}{\cos x} = \boxed{\sec x}$$

71) $\frac{\sin x}{1 - \cos^2 x}$

$$\frac{\sin x}{\sin^2 x} = \frac{1}{\sin x} = \boxed{\csc x}$$

$$\begin{array}{c} \downarrow \\ \cancel{\sin x} \\ \cancel{\sin x} \cdot \sin x \end{array}$$

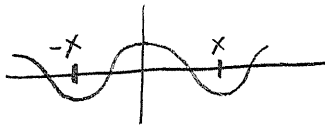
72) $\frac{\cos x}{1 - \sin^2 x}$

$$\frac{\cos x}{\cos^2 x} = \frac{1}{\cos x} = \boxed{\sec x}$$

$$\begin{array}{c} \downarrow \\ \cancel{\cos x} \\ \cancel{\cos x} \cdot \cos x \end{array}$$

73) $\cot(-x) \sin(-x)$

$$\frac{\cos(-x)}{\sin(-x)} \cdot \sin(-x) = \cos(-x) = \boxed{\cos x}$$



74) $\tan(-x) \csc(-x)$

$$\begin{aligned} \frac{\sin(-x)}{\cos(-x)} \cdot \csc(-x) &= \sin(-x) \\ &= \boxed{-\sin x} \end{aligned}$$

