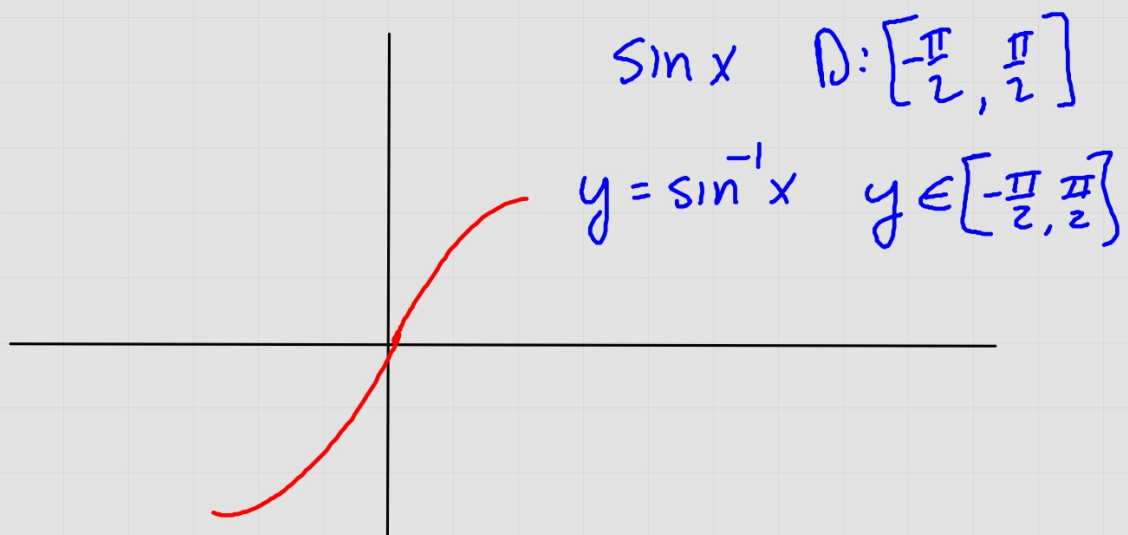


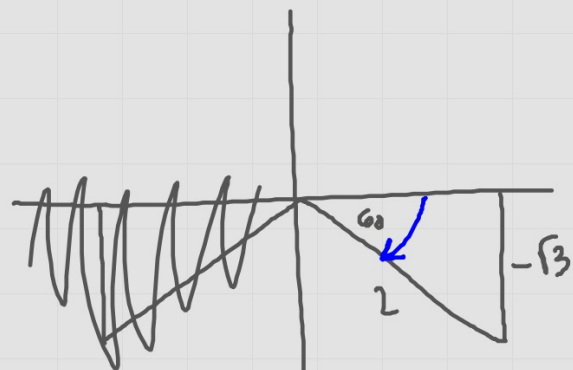
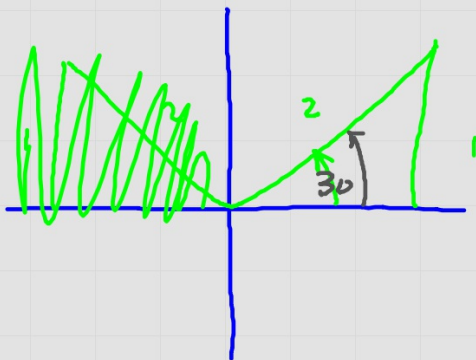
Inverse Trigonometric Functions

A Quick Review



$$\sin^{-1}\left(\frac{1}{2}\right) = \frac{\pi}{6}$$

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

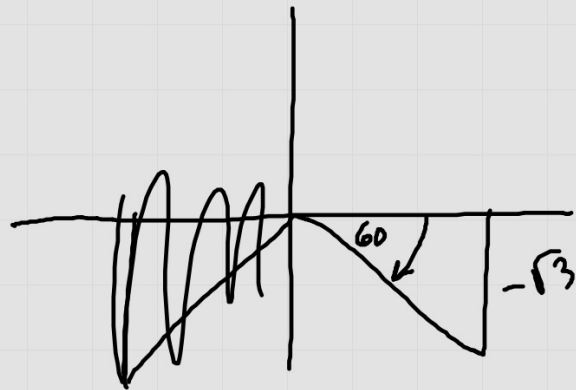
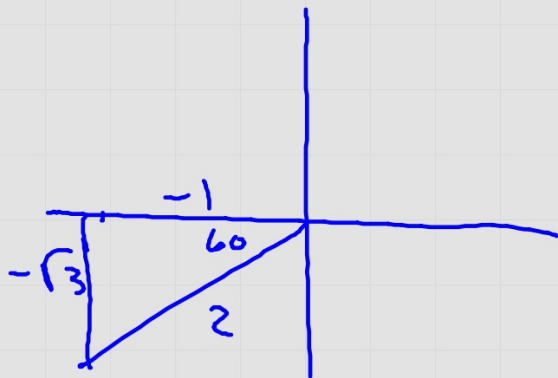


$$\sin(\sin^{-1} x) = x \quad x \in [-1, 1]$$

$$\sin^{-1}(\sin x) = x \quad x \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$$

$$\sin^{-1}\left(\sin \frac{\pi}{12}\right) = \frac{\pi}{12}$$

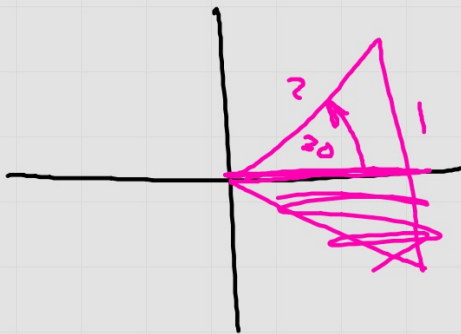
$$\sin^{-1}\left(\sin \frac{4\pi}{3}\right) = \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) = -\frac{\pi}{3}$$



New $\cos x$ D: $[0, \pi]$

$$y = \cos^{-1} x \quad y \in [0, \pi]$$

$$\cos^{-1} \frac{1}{2} = \frac{\pi}{6}$$



$$\cos(\cos^{-1} x) = x \quad x \in [-1, 1]$$

$$\cos^{-1}(\cos x) = x \quad x \in [0, \pi]$$

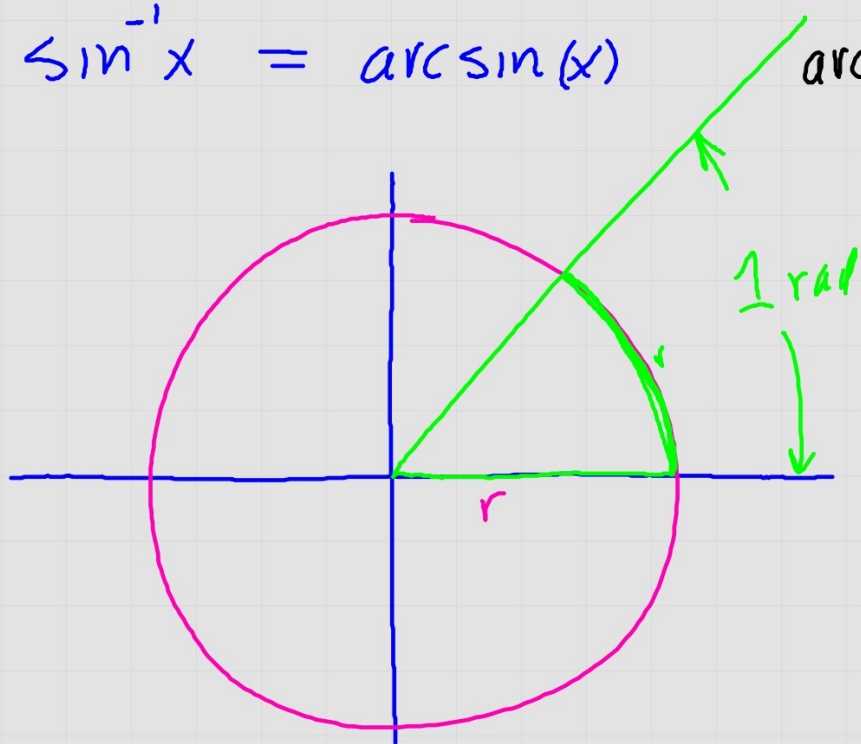
New $\tan x$ D: $\left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$

$$y = \tan^{-1} x \quad y \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$$

$$\tan(\tan^{-1} x) = x \quad x \in (-\infty, \infty)$$

$$\tan^{-1}(\tan x) = x \quad x \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$$

$$\sin^{-1} x = \arcsin(x)$$



$$C = 2\pi(r)$$

