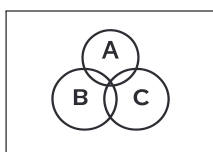
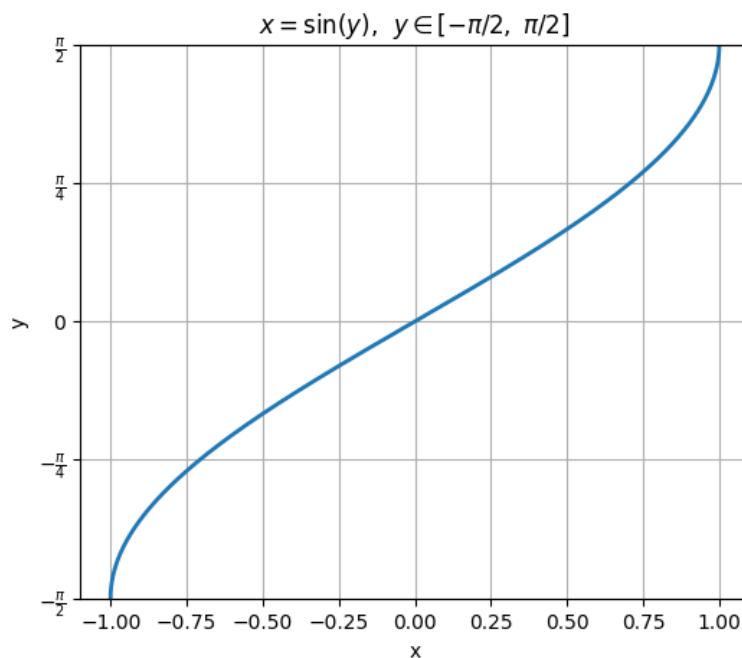
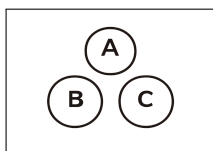


40 Inverse Trig Functions Domain and Range

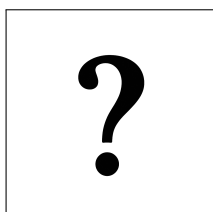
A



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

$$\text{Dom}(y) = -1 \leq x \leq 1$$

$$\text{Range}(y) = -\pi/2 \leq y \leq \pi/2$$

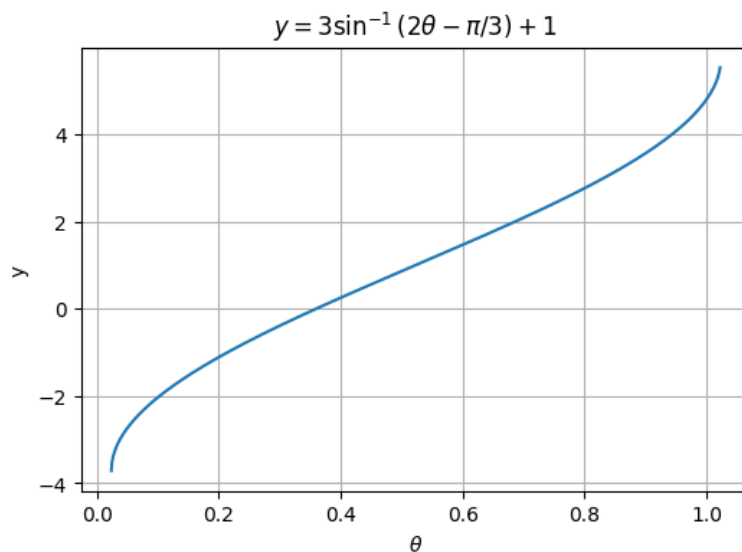
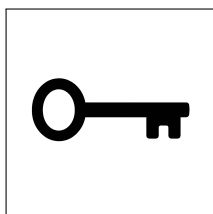


$$y = 3 \sin^{-1}(2\theta - \pi/3) + 1 \rightarrow \text{Range} = ?$$

$$y = 3 \sin^{-1}(2\theta - \pi/3) + 1 \rightarrow \text{Domain} = ?$$

40 Inverse Trig Functions Domain and Range

A



$$-\pi/2 \leq \sin^{-1}(x) \leq \pi/2$$

$$-3\pi/2 \leq 3\sin^{-1}(x) \leq 3\pi/2$$

$$\text{Range}(y) = [1 - 3\pi/2, 1 + 3\pi/2]$$

$$-1 \leq 2\theta - \pi/3 \leq 1$$

$$-1 + \pi/3 \leq 2\theta \leq 1 + \pi/3$$

$$-1 + \pi/3/2 \leq \theta \leq 1 + \pi/3/2$$

$$\pi - 3/6 \leq \theta \leq \pi + 3/6$$

$$\text{Domain}(y) = [\pi - 3/6, \pi + 3/6]$$