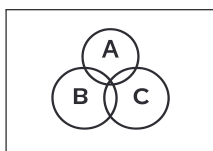
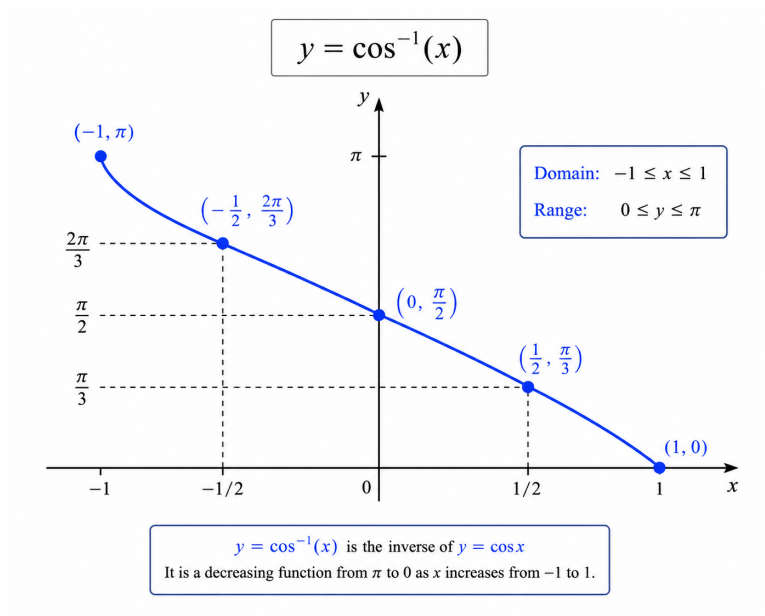
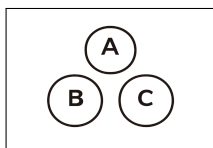


40 Inverse Trig Functions Domain and Range

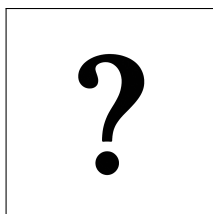
B



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

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

$$\text{Range}(y) = 0 \leq y \leq \pi$$

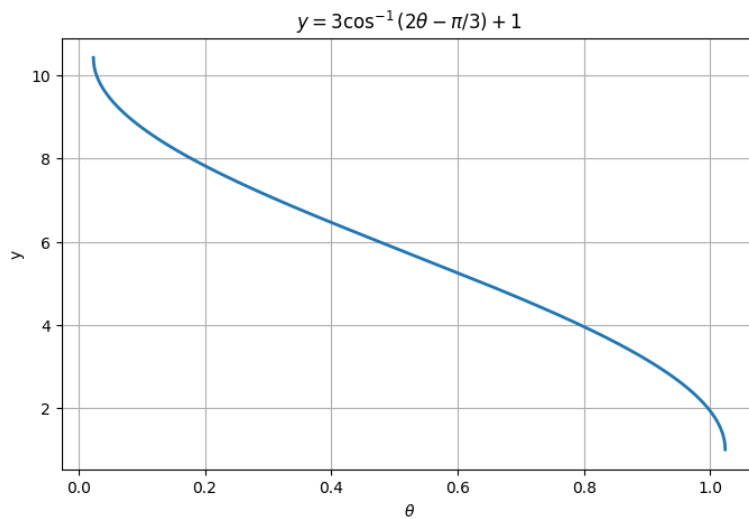
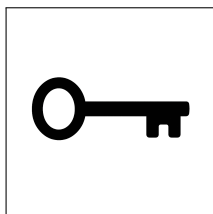


$$y = 3 \cos^{-1}(2\theta - \pi/3) + 1 \rightarrow \text{Range} = ?$$

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

40 Inverse Trig Functions Domain and Range

B



$$0 \leq \cos^{-1}(x) \leq \pi$$

$$0 \leq 3 \cos^{-1}(x) \leq 3\pi$$

$$1 \leq y \leq 3\pi + 1$$

$$\text{Range} = [1, 3\pi + 1]$$

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

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

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

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

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