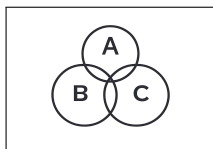
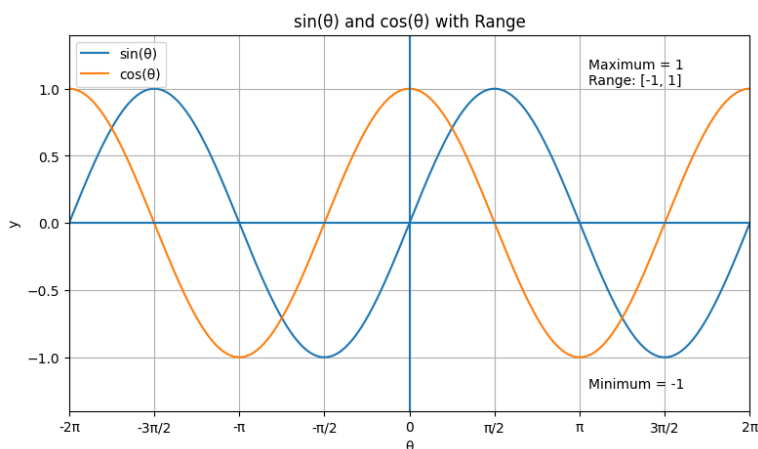
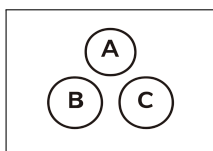


26

Facts and Properties Range

A



$$y = \sin(\theta)$$

$$\text{Dom}(y) = \mathbb{R}$$

$$\text{Range}(y) = [-1, 1]$$

$$y = \cos(\theta)$$

$$\text{Dom}(y) = \mathbb{R}$$

$$\text{Range}(y) = [-1, 1]$$



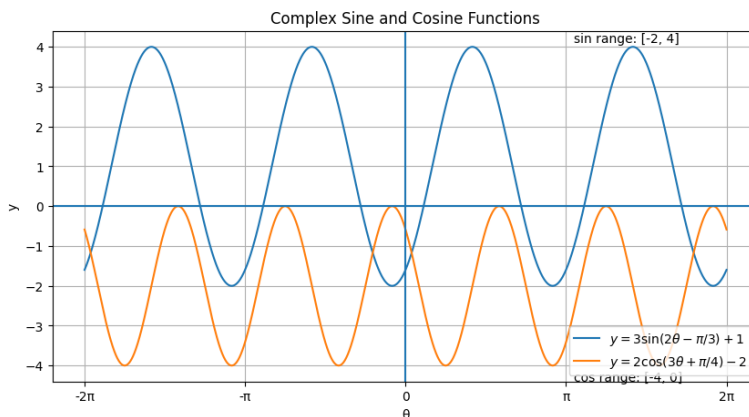
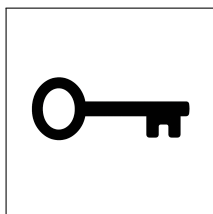
$$y = 3 \sin(2\theta - \pi/3) + 1 \rightarrow \text{Range} = ?$$

$$z = 2 \cos(3\theta + \pi/4) - 2 \rightarrow \text{Range} = ?$$

26

Facts and Properties Range

A



$$y = 3 \sin(2\theta - \pi/3) + 1$$

$$z = 2 \cos(3\theta + \pi/4) - 2$$

$$y = A \sin(B\theta + C) + D$$

$$y = A \cos(B\theta + C) + D$$

$$\text{Range}(3 \sin(2\theta - \pi/3) + 1) = [1 - |3|, 1 + |3|] = [-2, 4]$$

$$\text{Range}(2 \cos(3\theta + \pi/4) - 2) = [-2 - |2|, 2 + |2|] = [-4, 0]$$