

# ① Random Variable

$$x + 5 = 7$$

$$8 = y + x$$

$x, y$  {variables}

$$x = 2$$

$$y = 6$$

Random Variable is a process of mapping the output of a random process or experiments to a number.

Eg: Tossing a coin

$$X = \begin{cases} 0 & \text{if Head} \\ 1 & \text{if Tails} \end{cases}$$

Rolling a dice

Measure the Temperature of the next day

$$Y = \begin{cases} \text{Sum of the rolling of dice 7 times} \\ \Downarrow \end{cases}$$

$$P_r(Y \geq 15)$$

$$P(Y < 10)$$

$$X = \{ -, -, -, - \} \Rightarrow \text{Ages}$$