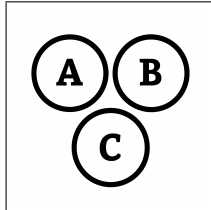


# B

## PMF and CDF

# B



$$P_0 = P_1 = P_2 = 1/4$$

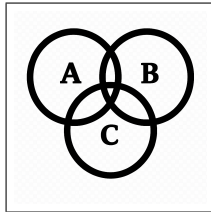
$$X : \Omega \rightarrow \mathbb{R}$$

$$X(1, 1) = 1 + 1 = 2 = \Omega_2$$

$$X(1, 0) = 1 + 0 = 1 = \Omega_1$$

$$X(0, 1) = 0 + 1 = 1 = \Omega_1$$

$$X(0, 0) = 0 + 0 = 0 = \Omega_0$$



*PMF*

$$P(X = 0) = |\Omega_0| \times P_0 = 1 \times 1/4 = 1/4$$

$$P(X = 1) = |\Omega_1| \times P_1 = 2 \times 1/4 = 1/2$$

$$P(X = 2) = |\Omega_2| \times P_2 = 1 \times 1/4 = 1/4$$

*CDF*

$$F(X = 0) = P(X = 0) = 1/4$$

$$F(X = 1) = P(X = 0) + P(X = 1) = 3/4$$

$$F(X = 2) = P(X = 0) + P(X = 1) + P(X = 2) = 1$$



*CDF*

$$F(X = 0) = P(X = 0) = 0.2$$

$$F(X = 1) = P(X = 0) + P(X = 1) = 0.6$$

$$F(X = 2) = P(X = 0) + P(X = 1) + P(X = 2) = 0.9$$

$$F(X = 3) = P(X = 0) + P(X = 1) + P(X = 2) + P(X = 3) = 1$$

$$PMF = ?$$

# B

## PMF and CDF

# B



*PMF*

$$P(X = 0) = F(X = 0) = 0.2$$

$$P(X = 1) = F(X = 1) - F(X = 0) = 0.4$$

$$P(X = 2) = F(X = 2) - F(X = 1) = 0.3$$

$$P(X = 3) = F(X = 3) - F(X = 2) = 0.1$$