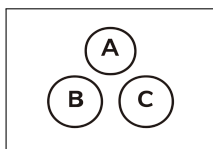


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Discrete Distribution Random Variable

F



$$X(HHH) = 3$$

$$X(HHT) = 2$$

$$X(HTH) = 2$$

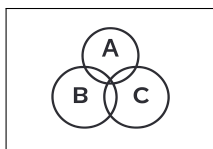
$$X(THH) = 2$$

$$X(HTT) = 1$$

$$X(THT) = 1$$

$$X(TTH) = 1$$

$$X(TTT) = 0$$



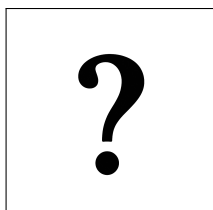
$$X : \Omega \rightarrow 0, 1, 2, 3$$

$$P(X = 0) = \frac{1}{8}$$

$$P(X = 1) = \frac{3}{8}$$

$$P(X = 2) = \frac{3}{8}$$

$$P(X = 3) = \frac{1}{8}$$



$$P(1) = 0.02$$

$$P(5) = 0.41$$

$$P(10) = 0.21$$

$$P(50) = 0.08$$

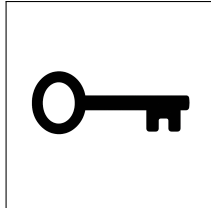
$$P(100) = 0.28$$

$$P(X > 4 \mid X \leq 50) = ?$$

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Discrete Distribution
Random Variable

F



$$P(1) = 0.02$$

$$P(5) = 0.41$$

$$P(10) = 0.21$$

$$P(50) = 0.08$$

$$P(100) = 0.28$$

$$P(X > 4 \mid X \leq 50) = ?$$

$$P(X \leq 50) = P(1) + P(5) + P(10) + P(50) = 0.02 + 0.41 + 0.21 + 0.08 = 0.72$$

$$P(X > 4 \text{ and } X \leq 50) = P(5) + P(10) + P(50) = 0.41 + 0.21 + 0.08 = 0.70$$

$$P(X > 4 \mid X \leq 50) = \frac{0.70}{0.72} = \frac{35}{36} \approx 0.97$$