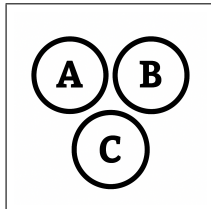
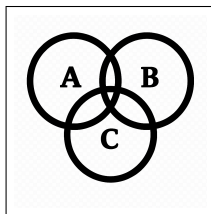


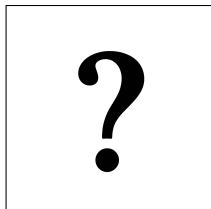
F Discrete Random Variables F



$$\begin{aligned}
 X(HHH) &= 3 \\
 X(HHT) &= 2 \\
 X(HTH) &= 2 \\
 X(THH) &= 2 \\
 X(HTT) &= 1 \\
 X(THT) &= 1 \\
 X(TTH) &= 1 \\
 X(TTT) &= 0
 \end{aligned}$$

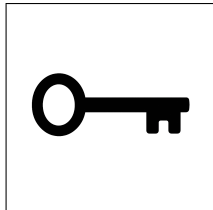


$$\begin{aligned}
 X : \Omega &\rightarrow 0, 1, 2, 3 \\
 P(X = 0) &= \frac{1}{8} \\
 P(X = 1) &= \frac{3}{8} \\
 P(X = 2) &= \frac{3}{8} \\
 P(X = 3) &= \frac{1}{8}
 \end{aligned}$$



$$\begin{aligned}
 P(1) &= 0.02 \\
 P(5) &= 0.41 \\
 P(10) &= 0.21 \\
 P(50) &= 0.08 \\
 P(100) &= 0.28 \\
 P(X > 4 \mid X \leq 50) &= ?
 \end{aligned}$$

F Discrete Random Variables F



$$P(1) = 0.02$$

$$P(5) = 0.41$$

$$P(10) = 0.21$$

$$P(50) = 0.08$$

$$P(100) = 0.28$$

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

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

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

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