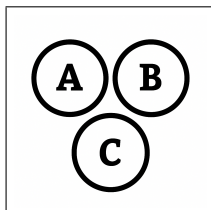


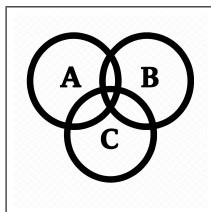
# E

## Conditional Probabilities

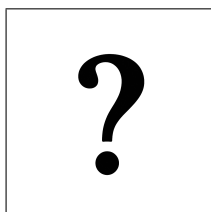
# E



$$\begin{aligned}H &= 60 \\U &= 100 \\P(M \cap H) &= 0.10 \\P(H) &= 60/100 = 0.60 \\P(M|H) &= ?\end{aligned}$$



$$\begin{aligned}H &= 60 \\U &= 100 \\P(M \cap H) &= 0.10 \\P(H) &= 60/100 = 0.60 \\P(M|H) &= P(M \cap H)/P(H) = 0.10/0.60 = 1/6 \approx 0.17\end{aligned}$$



$$\begin{aligned}P(A) &= 0.50 \\P(B) &= 0.30 \\P(C) &= 0.20 \\P(D|A) &= 0.01 \\P(D|B) &= 0.02 \\P(D|C) &= 0.05 \\P(D) &= ?\end{aligned}$$

# E

## Conditional Probabilities

# E



$$P(A) = 0.50$$

$$P(B) = 0.30$$

$$P(C) = 0.20$$

$$P(D|A) = 0.01$$

$$P(D|B) = 0.02$$

$$P(D|C) = 0.05$$

$$P(D) = ?$$

$$P(D) = P(D|A)P(A) + P(D|B)P(B) + P(D|C)P(C)$$

$$P(D) = (0.01)(0.50) + (0.02)(0.30) + (0.05)(0.20)$$

$$P(D) = 0.005 + 0.006 + 0.01 = 0.021$$