

$$\frac{P(H|S)}{P(H|S^c)} = \frac{P(H \& S)}{P(H \& S^c)}$$

$$\text{c) } P(H|S) = \frac{0.03 \rightarrow (H \& S)}{P(S) = 0.03 + 0.44} = \frac{0.03}{0.03 + 0.44}$$

$$P(H|S^c) = \frac{0.03 \rightarrow (H \& S^c)}{P(S^c) = 0.03 + 0.5} = \frac{0.03}{0.53}$$

$$\text{d) } P(S|H) = \frac{P(S, H) \rightarrow 0.03}{P(H) = 0.03 + 0.03} = \frac{0.03}{0.06}$$