

Question 1:

Given that E and F are events such that $P(E) = 0.6$, $P(F) = 0.3$ and $P(E \cap F) = 0.2$, find $P(E|F)$ and $P(F|E)$.

Solution:

Given, $P(E) = 0.6$, $P(F) = 0.3$ and $P(E \cap F) = 0.2$

$$\Rightarrow P(E|F) = \frac{P(E \cap F)}{P(F)}$$

$$= \frac{0.2}{0.3}$$

$$= \frac{2}{3}$$

$$\Rightarrow P(F|E) = \frac{P(E \cap F)}{P(E)}$$

$$= \frac{0.2}{0.6}$$

$$= \frac{1}{3}$$