Conditional Probability

$$P(A \mid B) = \frac{P(A \cap B)}{P(B)}$$

The probability of A given B

- Mutually Exclusive Events

$$P(A \wedge B) = 0$$

Draw 1 card

$$P(Q \wedge J) = 0$$

- Independent Events : one outcome doesn't affect another outcome

$$P(A \cap B) = P(A) \cdot P(B)$$

Toss a coin twice

$$P(2 \text{ heads}) = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

3G #6

$$P(S|T) = \frac{P(S \cap T)}{P(T)} = \frac{0.1}{0.6}$$

$$= \frac{1}{6}$$

#9 $$P(W|B) = \frac{P(W \cap B)}{P(B)} = \frac{0.34}{0.47}$$

$$= \frac{34}{47}$$