

Additive Rule for Non - Mutual Exclusive Event

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5:32 PM

Example - Taking out a card from a deck

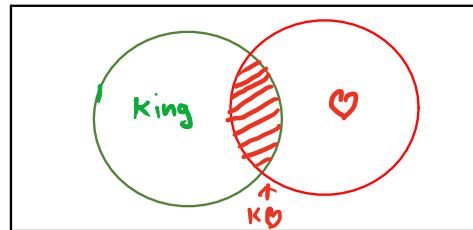
$$P_2(K \text{ or } \heartsuit)$$

$$P_2(A \text{ or } B) = P_2(A) + P_2(B) - P_2(A \cap B)$$

$$P_2(K) = \frac{4}{52}$$

$$P_2(\heartsuit) = \frac{13}{52}$$

$$P_2(K \cap \heartsuit) = \frac{1}{52}$$



$$\begin{aligned} P_2(K \text{ or } \heartsuit) &= \frac{4}{52} + \frac{13}{52} - \frac{1}{52} \\ &= \frac{16}{52} \end{aligned}$$