

10.  $n=52$ ,  $A$ : card drawn is a queen,  $B$ : card drawn is red.

a)  $A \cap B$ : the drawn card is a queen and is red.

Note:  $P(A) = 4/52$  and  $P(B) = 26/52$

$$P(A \cap B) = P(\text{queen card is red}) = 2/52 = 1/26 = 0.038$$

↳ Probability of randomly drawing a red queen (diamond or hearts)

b)  $A \cup B$ : the drawn card is a queen or is red

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = 4/52 + 26/52 - 2/52 = \frac{30-2}{52} = \frac{28}{52} \approx 0.54$$



Probability of randomly drawing a queen or a red card.