

Probability Union, Intersection, Complement - Example Problem to

Formula

1 What formula would give you the chance of not drawing a card that is over 6?



A $P(\text{over } 6 \cap \text{over } 6)$

$$P(\text{over } 6)$$

B $P(\text{over } 6) \cdot P(\text{over } 6)$

C $1 - P(\text{over } 6)$

2 What formula would give you the chance of drawing a card that is both a 3 and black?

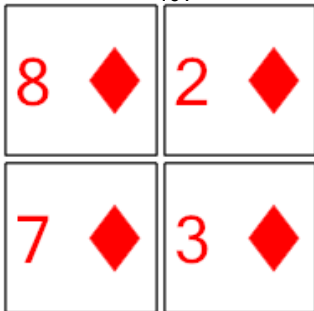


A $P(3) \cdot P(\text{black})$

B $1 - P(3)$

C $P(3) + P(\text{black}) - P(3 \cap \text{black})$

3 What formula would give you the chance of drawing a card that is a diamond, given that it is under 10?



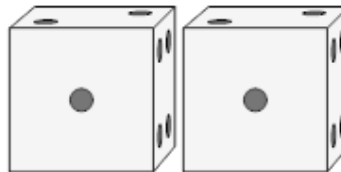
A $P(\text{diamonds} \cap \text{under } 10)$

$$P(\text{under } 10)$$

B $1 - P(\text{diamonds})$

C $P(\text{diamonds}) \cdot P(\text{under } 10)$

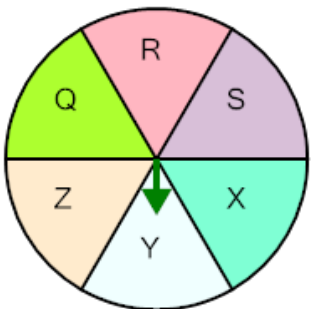
4 What formula would give you the chance of rolling a 1 twice in a row?



A $P(1_1) \cdot P(1_2)$

B $\frac{P(1_1 \cap 1_2)}{P(1_2)}$

5 What formula would give you the chance of spinning 'Y' twice in a row?

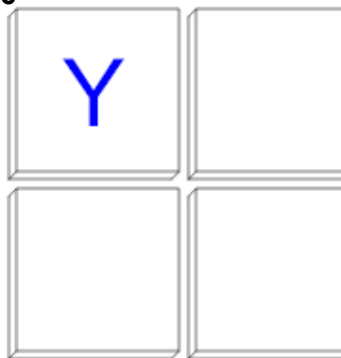


A $P(Y_1) + P(Y_2) - P(Y_1 \cap Y_2)$

B $P(Y_1) \cdot P(Y_2)$

C $1 - P(Y_1)$

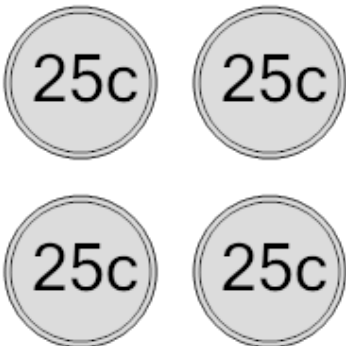
6 What formula would give you the chance of drawing an 'Y' twice in a row?



A $P(Y_1) + P(Y_2) - P(Y_1 \cap Y_2)$

B $P(Y_1) \cdot P(Y_2)$

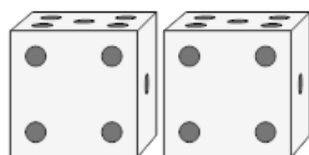
7 What formula would give you the chance of getting exactly 3 tails when flipping 4 coins, given that the first flip was tails?



A $\frac{P(3 \text{ tails} \cap \text{first is tails})}{P(\text{first is tails})}$

B $P(3 \text{ tails}) \cdot P(\text{first is tails})$

8 What formula would give you the chance of rolling a 4 at least once given two tries?



A $\frac{P(4_1 \cap 4_2)}{P(4_2)}$

B $P(4_1) \cdot P(4_2)$

C $P(4_1) + P(4_2) - P(4_1 \cap 4_2)$