



Calculate probabilities of independent events

1

A fair coin is flipped and a fair six-sided die is rolled. Event A: The die shows a 5. Event B: The coin shows heads.

A

No, events A and B are not independent.

B

Yes, events A and B are independent.

2

Two fair six-sided dice are rolled. Event A: The total is less than 10. Event B: The first die shows a 4.

A

They are mutually exclusive but not independent.

B

They are neither mutually exclusive nor independent.

C

They are independent but not mutually exclusive.

D

They are both mutually exclusive and independent.

3

Two events, A and B, are not independent.

A

$P(A \cap B) = 0$

B

Neither of these

C

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

4

A and B are mutually exclusive, and they are not independent.

A

$P(A \cap B) = 0$

B

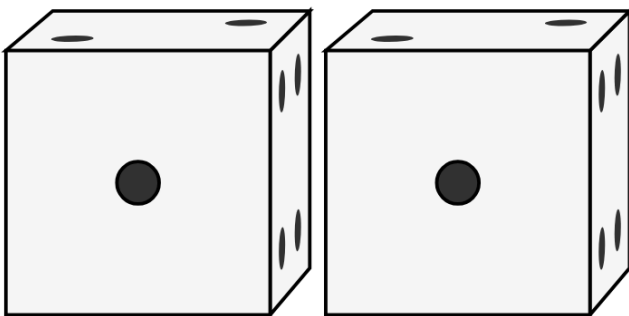
Neither of these

C

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

5

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



A

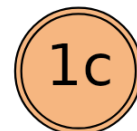
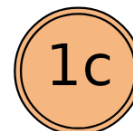
$$P(1_1) \cdot P(1_2)$$

B

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

6

What is the equation for the chance of flipping heads on both these coins?



A

$50\% \cdot 50\%$

B

50%

C

$100\% - 50\% \cdot 50\%$

D

$100\% - 50\%$

7

What is the equation for the chance of flipping heads on both these coins?



A

$1 - 0.5 \cdot 0.5$

B

$1 - 0.5$

C

0.5

D

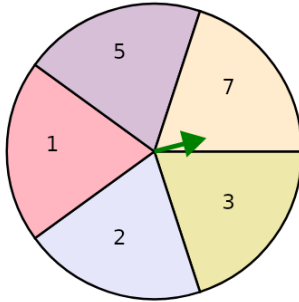
$0.5 \cdot 0.5$



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8

Calculate the probability of spinning 5 twice in a row. Show as an equation



P(5 twice)

A $\frac{4}{23} \cdot \frac{4}{23}$

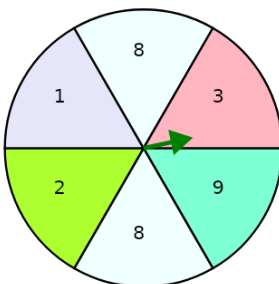
B $\frac{4}{24} \cdot \frac{4}{24}$

C $\frac{1}{5} \cdot \frac{1}{5}$

D $\frac{4}{27} \cdot \frac{4}{27}$

11

Calculate the probability of spinning 2 at least once, given two spins. Show as a fraction



P(2 in 2 spins)

A $\frac{13}{38}$

B $\frac{11}{36}$

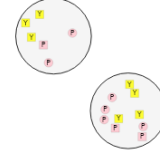
C $\frac{15}{35}$

D $\frac{9}{38}$

E $\frac{13}{37}$

9

What is the equation for the chance of drawing a pink circle at random from both bags?



A $33\% \times 40\%$

B $50\% \times 100\%$

C $30\% \times 100\%$

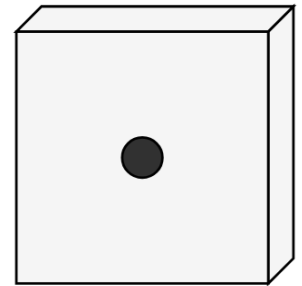
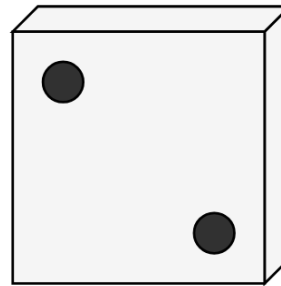
D $40\% \times 50\%$

E $25\% \times 38\%$

F $75\% \times 100\%$

10

What is the equation for the chance of rolling at least one 2 on these dice?



A $\frac{1}{6}$

B $\frac{1}{6} + \frac{1}{6} - \frac{1}{6} \cdot \frac{1}{6}$

C $1 - \frac{1}{6} \cdot \frac{1}{6}$

D $\frac{1}{6} \cdot \frac{1}{6}$