

Calculate probabilities of independent compound events

1

A fair coin is flipped and a fair six-sided die is rolled. Event A: The die shows a 3. Event B: The coin shows heads.

A

No, events A and B are not independent.

B

Yes, events A and B are independent.

2

Three fair six-sided dice are rolled. Event A: The total is greater than 10. Event B: The total is less than 5.

A

They are mutually exclusive but not independent.

B

They are independent but not mutually exclusive.

C

They are both mutually exclusive and independent.

D

They are neither mutually exclusive nor independent.

3

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


A

$$100\% - 50\%$$

B

$$50\% \cdot 50\%$$

C

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

D

$$50\%$$

4

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


A

$$1 - 0.5 \cdot 0.5$$

B

$$0.5 \cdot 0.5$$

C

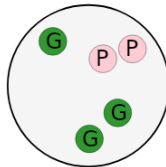
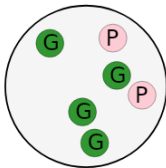
$$0.5$$

D

$$1 - 0.5$$

5

What is the equation for the chance of drawing a green shape at random from both bags?


A

$$\frac{2}{4} \cdot \frac{5}{6}$$

B

$$\frac{2}{2} \cdot \frac{2}{8}$$

C

$$\frac{4}{10} \cdot \frac{1}{8}$$

D

$$\frac{1}{3} \cdot \frac{2}{8}$$

E

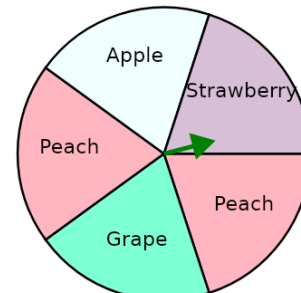
$$\frac{4}{6} \cdot \frac{3}{5}$$

F

$$\frac{1}{8} \cdot \frac{1}{3}$$

6

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


A

$$\frac{5}{27} \cdot \frac{5}{27}$$

B

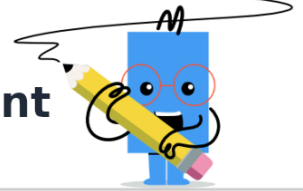
$$\frac{3}{27} \cdot \frac{3}{27}$$

C

$$\frac{3}{26} \cdot \frac{3}{26}$$

D

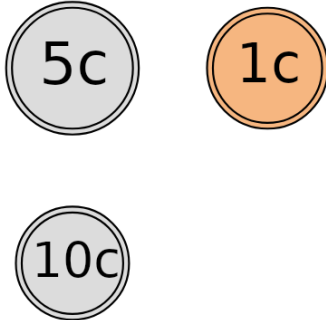
$$\frac{1}{5} \cdot \frac{1}{5}$$



Calculate probabilities of independent compound events

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



A $1 - \frac{1}{2} \cdot \frac{1}{2}$

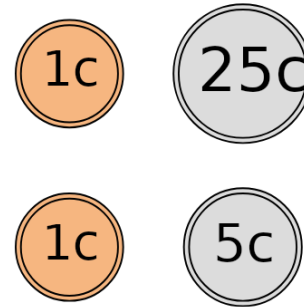
B $\frac{1}{2} \cdot \frac{1}{2}$

C $1 - \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

D $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

8

What is the equation for the chance of flipping all heads or all tails on these coins?



A $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

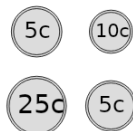
B $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

C $1 - \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

D $1 - \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

9

What is the equation for the chance of flipping tails on all these coins?



A $1 - 0.5 \cdot 0.5 \cdot 0.5 \cdot 0.5$

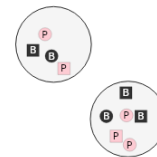
B $0.5 \cdot 0.5 \cdot 0.5$

C $0.5 \cdot 0.5 \cdot 0.5 \cdot 0.5$

D $1 - 0.5 \cdot 0.5 \cdot 0.5$

10

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



A $100\% \times 10\%$

B $75\% \times 75\%$

C $50\% \times 50\%$

D $10\% \times 100\%$

E $20\% \times 17\%$

F $67\% \times 100\%$

11

A spinner with three equal-sized sections coloured red, green, and blue is spun twice. Event A: The first spin lands on green. Event B: The second spin lands on red.

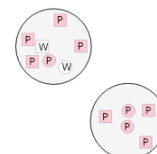
A Neither of these

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

C $P(A \cap B) = 0$

12

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



A $25\% \times 25\%$

B $71\% \times 60\%$

C $40\% \times 100\%$

D $60\% \times 33\%$

E $83\% \times 75\%$

F $20\% \times 25\%$