

Interleaved: probability AND and OR

1

A spinner lands on red with probability 0.3 and on blue with probability 0.25. Find the probability that it lands on red or blue.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

red or blue, which cannot both happen: add, $0.3 + 0.25$

Answer

0.55

2

A bag holds 3 red and 5 blue counters. A counter is taken, put back, and a second is taken. Find the probability that both are red.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

3

The same bag holds 3 red and 5 blue counters. Two counters are taken without putting the first back. Find the probability that both are red.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

4

The probability a train is late is 0.15. The probability it is cancelled is 0.05. It cannot be both. Find the probability that it is late or cancelled.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

5

A coin is flipped and a fair dice is rolled. Find the probability of a head and a 6.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

6

A drawer holds 4 black and 6 grey socks. Two socks are taken out at random. Find the probability that both are grey.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

7

The probability of rain on Saturday is 0.4. The probability of rain on Sunday is also 0.4, whatever happens on Saturday. Find the probability it rains on both days.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

8

A letter is picked at random from the word PROBABILITY. Find the probability that it is a B or an I.

Which method?

AND, replaced: multiply

AND, not replaced: multiply

OR: add

Answer _____

Interleaved: probability AND and OR further practice

9

A box holds 7 milk and 3 dark chocolates. Kai eats two at random. Find the probability that both are dark.

Answer _____

10

Ama scores a penalty with probability 0.7 each time, whatever happened before. She takes two. Find the probability she scores both.

Answer _____

11

The probability a team wins a match is 0.45. The probability it draws is 0.3. Find the probability that it does not lose.

Answer _____

12

A captain and a vice captain are picked at random from 5 girls and 4 boys. Find the probability that both are boys.

Answer _____

13

A card is picked from ten cards numbered 1 to 10, put back, and a second card is picked. Find the probability that both are even.

Answer _____

14

The probability a bus is on time is 0.65. The probability it is early is 0.12. Find the probability it is on time or early.

Answer _____

15

A bag holds 2 red and 3 green counters. Two are taken without putting the first back. Find the probability of one of each colour.

Answer _____

16

Jo rolls two fair dice. She says the probability of two sixes is $\frac{1}{6} + \frac{1}{6} = \frac{1}{3}$. Explain her mistake and find the right probability.

Answer _____