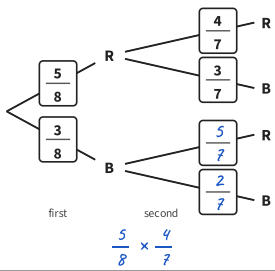


Conditional Probability: Tree Diagrams

ANSWERS

1 second pick: one counter fewer

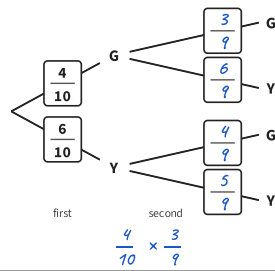
5 red and 3 blue counters. Two are taken **without replacement**. Find the probability of two red.



Probability $\frac{20}{56}$

2

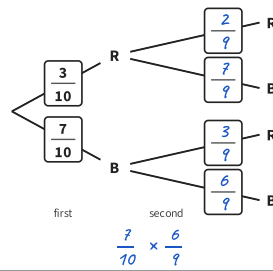
4 green and 6 yellow counters. Two are taken **without replacement**. Find the probability of two green.



Probability $\frac{12}{90}$

3

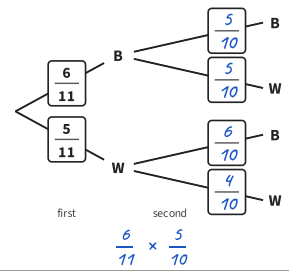
3 red and 7 blue counters. Two are taken **without replacement**. Find the probability of two blue.



Probability $\frac{42}{90}$

4

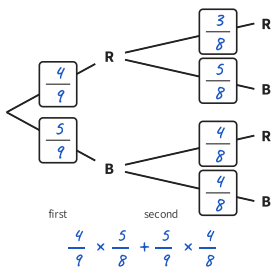
6 black and 5 white counters. Two are taken **without replacement**. Find the probability of two black.



Probability $\frac{30}{110}$

5 Notice the change!

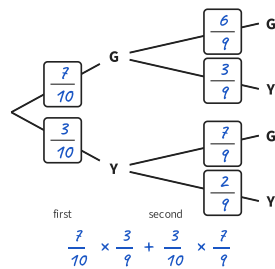
4 red and 5 blue counters. Two are taken **without replacement**. Find the probability of one of each colour.



Probability $\frac{40}{72}$

6

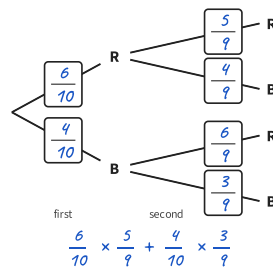
7 green and 3 yellow counters. Two are taken **without replacement**. Find the probability of one of each colour.



Probability $\frac{42}{90}$

7

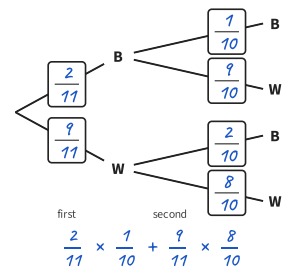
6 red and 4 blue counters. Two are taken **without replacement**. Find the probability of two of the same colour.



Probability $\frac{42}{90}$

8

2 black and 9 white counters. Two are taken **without replacement**. Find the probability of two of the same colour.



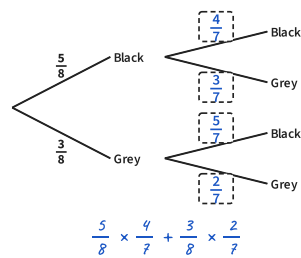
Probability $\frac{74}{110}$

Conditional Probability: Tree Diagrams further practice

ANSWERS

9

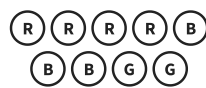
A drawer holds 5 black socks and 3 grey socks. Two socks are taken at random, without replacement. Find the probability that they are the same colour.



Answer $\frac{26}{56} = \frac{13}{28}$

10

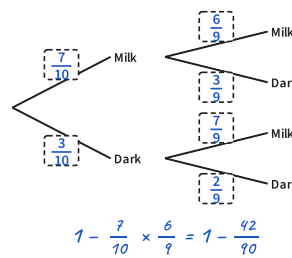
A bag holds 4 red, 3 blue and 2 green counters. Two counters are taken at random, without replacement. Find the probability that they are the same colour.



Answer $\frac{20}{72} = \frac{5}{18}$

11

A box holds 7 milk chocolates and 3 dark chocolates. Sam takes two at random, without replacement. Find the probability that at least one of them is dark.

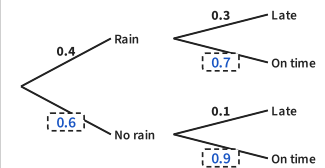


Answer $\frac{8}{15}$

12

The probability that it rains on a school day is 0.4. If it rains, the probability that Ella is late is 0.3. If it does not rain, the probability that she is late is 0.1.

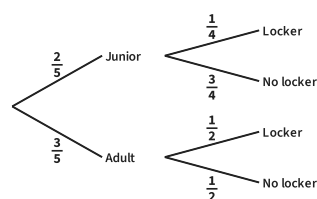
(a) Complete the tree diagram. (b) Find the probability that Ella is late.



(b) $0.12 + 0.06 = 0.18$

13

The tree diagram shows the members of a gym. A member is chosen at random. Given that the member has a locker, find the probability that the member is a junior.



Answer $\frac{1}{4}$

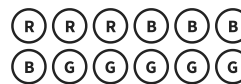
14

A bag holds n counters. 4 of them are red. Two counters are taken at random, without replacement. The probability that both are red is $\frac{2}{15}$. Find n .

Answer $n = 10$

15

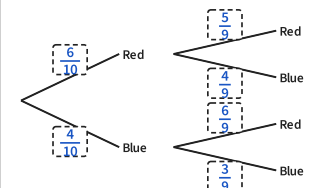
A bag holds 3 red, 4 blue and 5 green counters. Three counters are taken at random, without replacement. Find the probability that they are all different colours.



Answer $\frac{3}{11}$

16

A bag holds 6 red and 4 blue counters. Two are taken at random, without replacement. Ravi says the second counter is less likely than the first to be red. Is Ravi right? Show how you know.



Answer No: $\frac{30}{90} + \frac{24}{90} = \frac{3}{5}$