

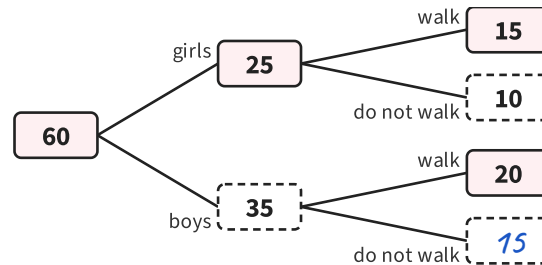
Frequency Trees

ANSWERS

1

60 students: 25 are girls. 15 of the girls walk to school. 20 of the boys walk to school.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that they walk to school.

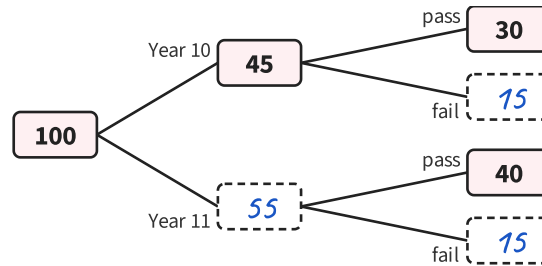


(b) $\frac{35}{60} = \frac{7}{12}$

3

100 students sit a test: 45 are in Year 10, the rest in Year 11. 30 of Year 10 pass. 40 of Year 11 pass.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that they failed the test.

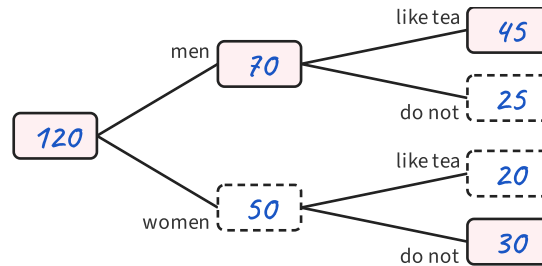


(b) $\frac{30}{100} = \frac{3}{10}$

5

120 people are asked if they like tea: 70 are men. 45 of the men like tea. 30 of the women do not like tea.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that they like tea.

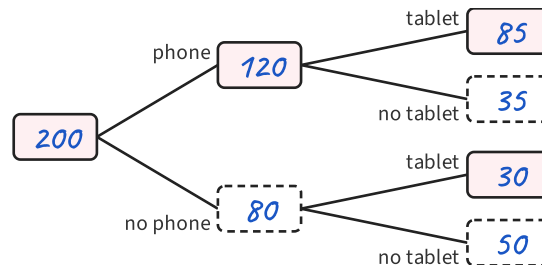


(b) $\frac{65}{120} = \frac{13}{24}$

7

200 students: 120 have a phone. 85 of the students with a phone also have a tablet. 30 of the others have a tablet.

(a) Draw a frequency tree. (b) A person is chosen at random. Find the probability that they have a tablet but no phone.

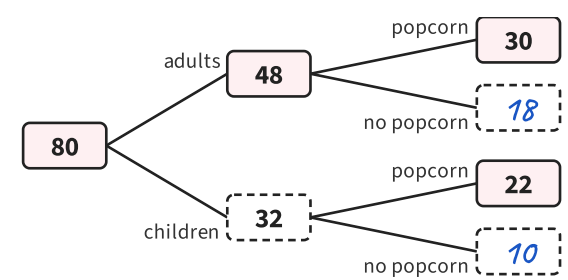


(b) $\frac{30}{200} = \frac{3}{20}$

2

80 people at a cinema: 48 are adults. 30 of the adults buy popcorn. 22 of the children buy popcorn.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that they are a child who buys popcorn.

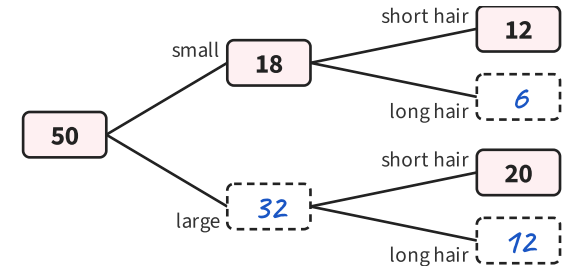


(b) $\frac{22}{80} = \frac{11}{40}$

4

50 dogs at a show: 18 are small. 12 of the small dogs have short hair. 20 of the large dogs have short hair.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that the dog has long hair.

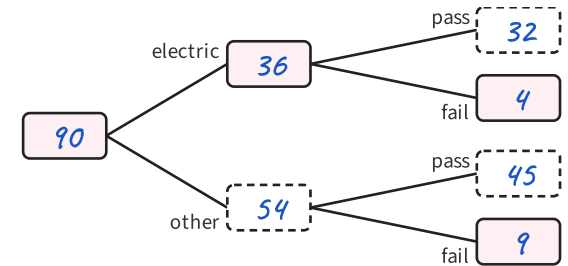


(b) $\frac{18}{50} = \frac{9}{25}$

6

90 cars are tested: 36 are electric. 4 of the electric cars fail. 9 of the other cars fail.

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that the car failed.

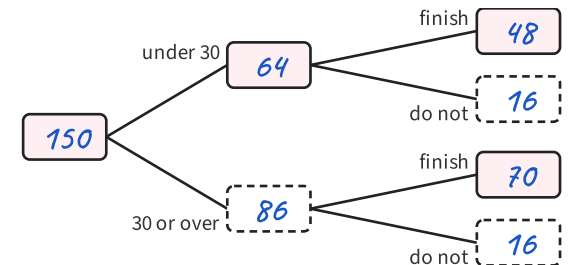


(b) $\frac{13}{90}$

8

150 runners: 64 are under 30. 48 of the under-30s finish the race. 70 of the others finish.

(a) Draw a frequency tree. (b) A person is chosen at random. Find the probability that they did not finish.



(b) $\frac{32}{150} = \frac{16}{75}$

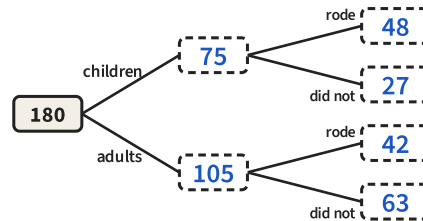
Frequency Trees *further practice*

ANSWERS

9

180 people visited a farm park. 75 were children. 48 of the children rode on the tractor. 63 of the adults did not.

(a) Complete the frequency tree. (b) Find the probability that a visitor chosen at random rode on the tractor.

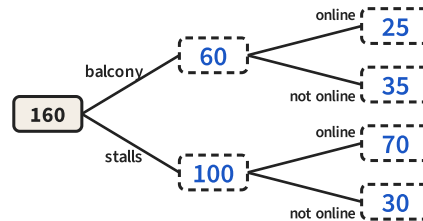


(b) $\frac{90}{180} = \frac{1}{2}$

11

A theatre sold 160 tickets. $\frac{3}{8}$ of them were for the balcony and the rest for the stalls. 25 balcony tickets and 70 stalls tickets were bought online.

(a) Complete the frequency tree. (b) Find the probability that a ticket chosen at random was not bought online.

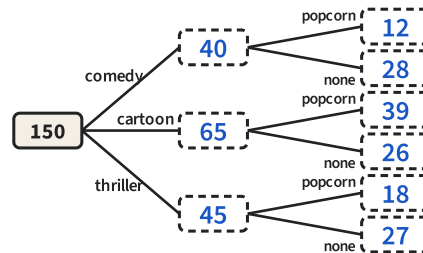


(b) $\frac{65}{160} = \frac{13}{32}$

13

150 people saw a film: 40 saw a comedy, 65 a cartoon and the rest a thriller. 12 of the comedy, 39 of the cartoon and 18 of the thriller audience bought popcorn.

(a) Complete the frequency tree. (b) Find the probability that a person chosen at random did not buy popcorn.



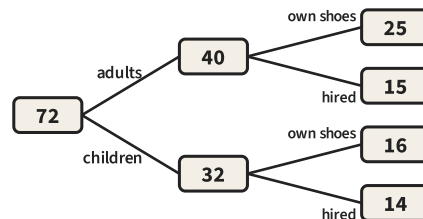
(b) $\frac{81}{150} = \frac{27}{50}$

15

72 people visited a climbing wall. 40 were adults. 25 of the adults wore their own shoes. 14 of the children hired shoes. Noah drew this frequency tree. He has made one mistake. Find it and correct it.

$32 - 14 = 18$

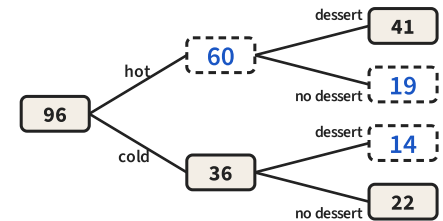
Answer 18, not 16



10

The frequency tree shows 96 meals ordered at a café, and whether each came with a dessert.

(a) Complete the frequency tree. (b) Find the probability that a meal chosen at random was a cold meal with a dessert.

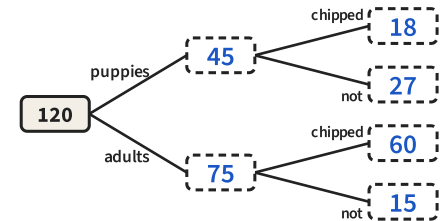


(b) $\frac{14}{96} = \frac{7}{48}$

12

A rescue centre has 120 dogs. 45 are puppies, and 18 of these are microchipped. A dog is chosen at random. The probability that it is a microchipped adult is $\frac{1}{2}$.

(a) Complete the frequency tree. (b) Find the probability that it is not microchipped.



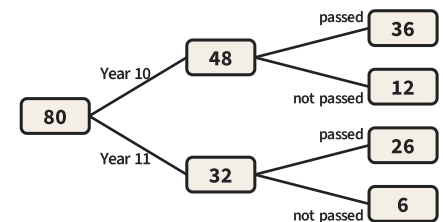
(b) $\frac{42}{120} = \frac{7}{20}$

14

The frequency tree shows the results of 80 students in a first aid test. More Year 10 students than Year 11 students passed. Which year group did better in the test? Compare the fraction of each year group that passed.

$\frac{36}{48} = \frac{12}{16}$ and $\frac{26}{32}$
Year 11

Answer



16

A shop repaired 90 phones. Jay says the probability that a phone chosen at random was a screen repair done in a day is $\frac{21}{35}$. Is Jay right? Explain.

it is 21 out of all 90 phones

Answer No, it is $\frac{7}{30}$

