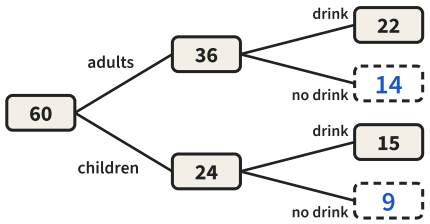
Frequency Trees

ANSWERS

1 **60 people on a coach trip: 36 are adults. 22 adults and 15 children buy a drink.**

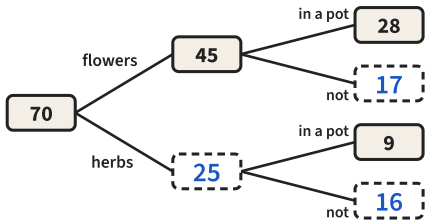
(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that it is a child who buys a drink.



(b) P = $\frac{15}{60}$ number you want / total at the start $= \frac{1}{4}$

2 **70 plants sold: 45 are flowers, the rest herbs. 28 flowers and 9 herbs are sold in a pot.**

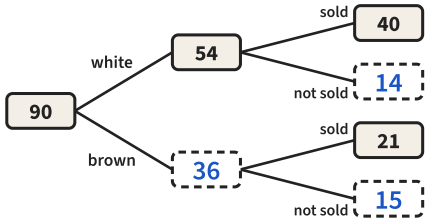
(a) Complete the frequency tree. (b) A plant is chosen at random. Find the probability that it is a herb not in a pot.



(b) P = $\frac{16}{70}$ number you want / total at the start $= \frac{8}{35}$

3 **90 loaves baked: 54 are white, the rest brown. 40 white and 21 brown loaves are sold.**

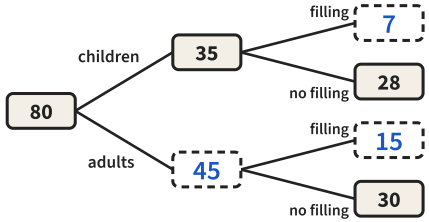
(a) Complete the frequency tree. (b) A loaf is chosen at random. Find the probability that it is a white loaf that was not sold.



(b) P = $\frac{14}{90} = \frac{7}{45}$

4 **A dentist saw 80 patients. 35 were children and the rest were adults. 28 of the children and 30 of the adults did not need a filling.**

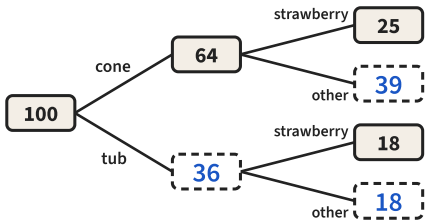
(a) Complete the frequency tree. (b) A patient is chosen at random. Find the probability that it is an adult who needed a filling.



(b) $\frac{15}{80} = \frac{3}{16}$

5 **A shop sold 100 ice creams. 64 were in a cone and the rest were in a tub. 25 of the cones and 18 of the tubs were strawberry.**

(a) Complete the frequency tree. (b) An ice cream is chosen at random.
Find the probability that it is strawberry.

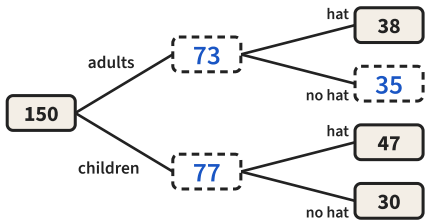


25 + 18 = 43

(b) $\frac{43}{100}$

6 **150 people went to a firework display. 38 of the adults and 47 of the children wore a hat. 30 of the children did not wear a hat.**

(a) Complete the frequency tree. (b) A person is chosen at random. Find the probability that it is an adult without a hat.

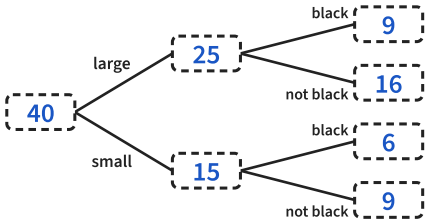


47 + 30 = 77 children

(b) $\frac{35}{150} = \frac{7}{30}$

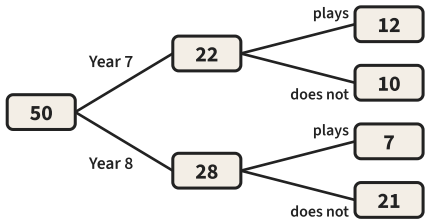
7 **A shop sold 40 umbrellas. 25 were large and the rest were small. 9 large and 6 small umbrellas were black.**

(a) Draw a frequency tree. (b) An umbrella is chosen at random. Find the probability that it is small and not black.



(b) $\frac{9}{40}$

8 **The tree shows 50 students and whether they play an instrument. A student is chosen at random. Ben says the probability that it is a Year 8 who plays is $\frac{7}{28}$. Explain his mistake.**
Then find the probability.



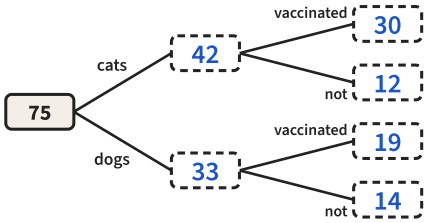
he used 28, not the total of 50

Answer $\frac{7}{50}$

Frequency Trees *further practice*

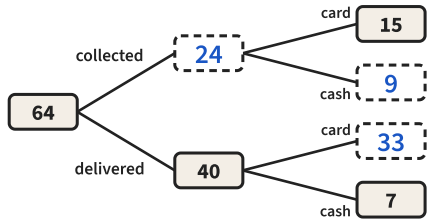
ANSWERS

9 A vet saw 75 animals. 42 were cats and the rest were dogs. 30 of the cats and 19 of the dogs were vaccinated.
(a) Complete the frequency tree.
(b) An animal is chosen at random. Find the probability that it is a dog that was not vaccinated.



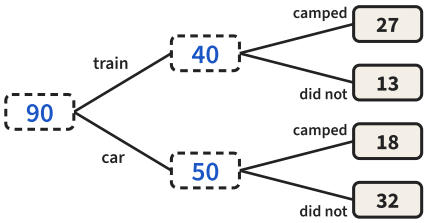
(b) $\frac{14}{75}$

10 The frequency tree shows 64 takeaway orders, whether each was collected or delivered, and how it was paid for.
(a) Complete the frequency tree. (b) An order is chosen at random. Find the probability that it was collected and paid in cash.



(b) $\frac{9}{64}$

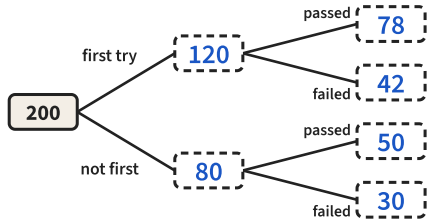
11 Some people went to a festival by train or by car. The frequency tree shows whether they camped.
(a) Complete the frequency tree.
(b) A person is chosen at random. Find the probability that they went by car.



18 + 32 = 50

(b) $\frac{50}{90} = \frac{5}{9}$

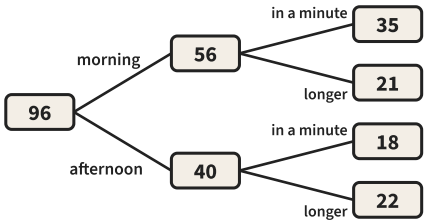
12 200 people took a driving test.
120 were taking it for the first time.
78 of these and 50 of the others passed.
(a) Complete the frequency tree.
(b) A person is chosen at random. Find the probability that they passed.



78 + 50 = 128

(b) $\frac{128}{200} = \frac{16}{25}$

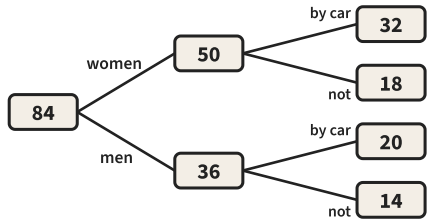
13 The tree shows 96 calls to a help desk. A call is chosen at random. Is it more likely to be a morning call answered in a minute, or an afternoon call that took longer? Show how you know.



35 is more than 22

Answer the morning call

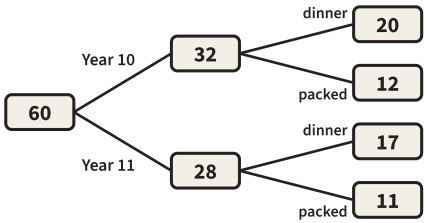
14 84 people went to a fitness class.
50 were women. 32 of the women and 20 of the men came by car. Zoe drew this frequency tree. One number is wrong. Find it and correct it.



84 − 50 = 34 and 20 + 14 = 34

Answer 34, not 36

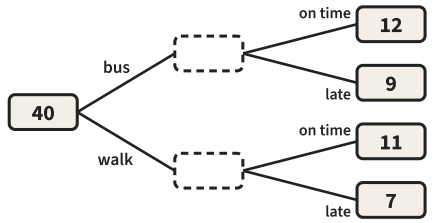
15 The frequency tree shows 60 students, and whether they have a school dinner or a packed lunch. A student is chosen at random. Find the probability that it is not a Year 11 student with a packed lunch.



20 + 12 + 17 = 49

Answer $\frac{49}{60}$

16 Tom drew a frequency tree for 40 students. He wrote 12, 9, 11 and 7 at the four ends. Explain how you know that Tom has made a mistake.



12 + 9 + 11 + 7 = 39

Answer the ends make 39, not 40