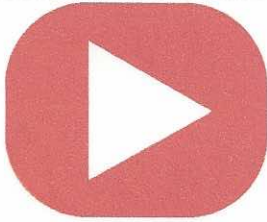


# Frequency Trees

Video 376 on Corbettmaths

Examples

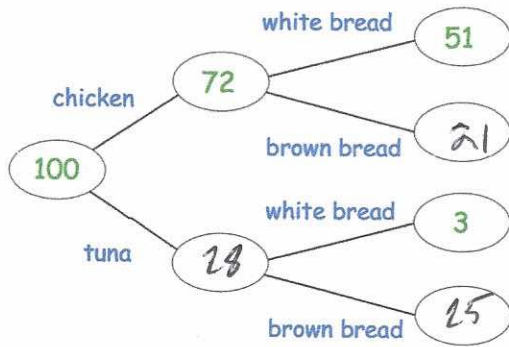


Workout

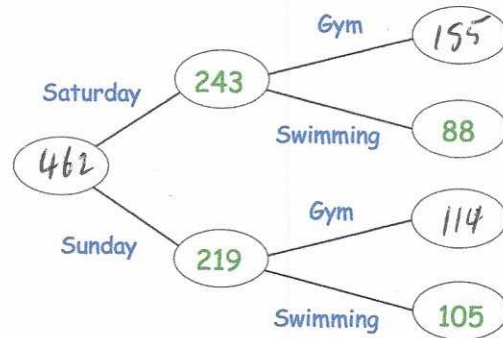
Click here

Question 1: Complete the following frequency trees.

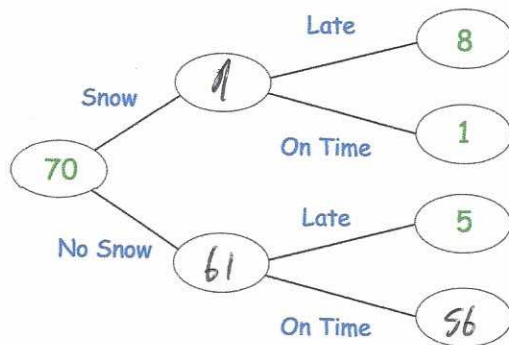
(a)



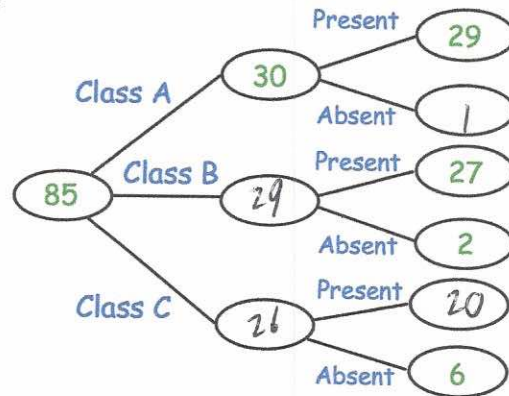
(b)



(c)



(d)



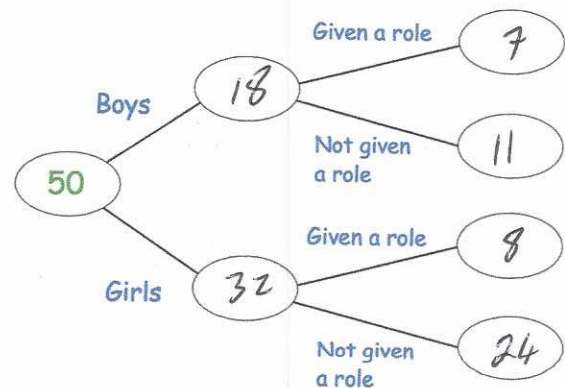
Question 2: 50 children audition for the school play.

18 of the children are boys.  
15 children were given a role in the play.  
8 girls were given a role in the play.

(a) Complete the frequency tree.

(b) What fraction of the boys were given a role in the play?

$$\frac{7}{18}$$



## Frequency Trees

Video 376 on Corbettmaths

Question 3: 83 people are offered a choice of soup and roll.

9 of the 37 people who had tomato soup, had a brown roll.  
31 people had chicken soup and a white roll.

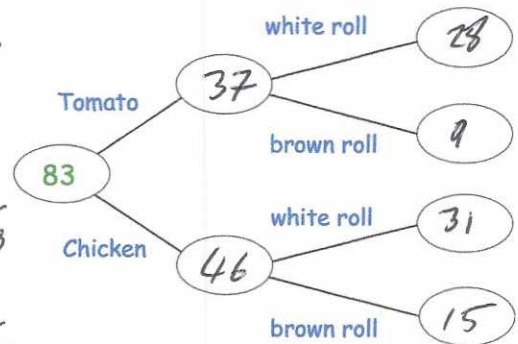
(a) Complete the frequency tree.

(b) What fraction of the people chose chicken soup?

$$\frac{46}{83}$$

(c) What fraction of the people chose a brown roll?

$$\frac{24}{83}$$



Question 4: 200 students were given some homework.

102 of these students are in Year 11.

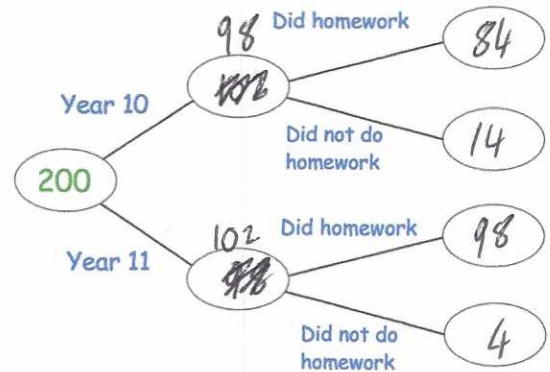
182 of the 200 students did their homework

14 of the Year 10 students did not do their homework.

(a) Complete the frequency tree.

(b) What percentage of students in Year 11 did their homework?

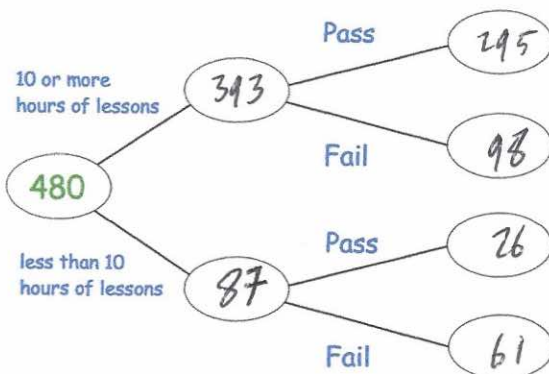
$$96.08\%$$



Question 5: 480 people sit their driving test.

87 people take less than 10 hours of driving lessons.

295 of the 321 that passed their driving test took 10 hours or more of driving lessons.



(a) Complete the frequency tree.

A person is chosen at random

(b) What is the probability that they failed their driving test?

$$\frac{159}{480}$$

## Frequency Trees

Video 376 on Corbettmaths

Question 6: In Year 9 there are 95 students.  
46 of the 50 girls are right handed.  
There are 9 left handed boys.

(a) Show this information on a frequency tree

(b) What fraction of the boys are right handed?

$$\frac{4}{5}$$

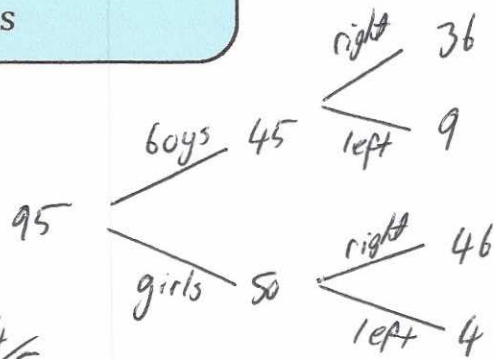
(c) What fraction of the students are left handed?

$$\frac{13}{95}$$

A left handed student is picked at random.

(d) Write down the probability that this student is a girl.

$$\frac{4}{13}$$

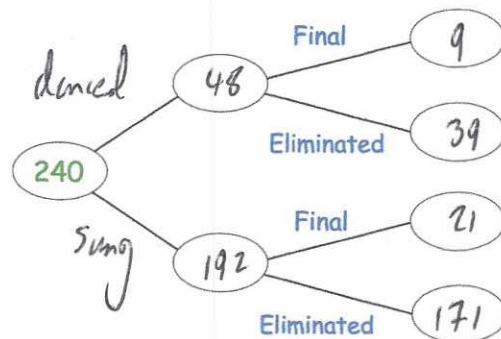


### Apply

Question 1: 240 acts took part in a talent show.

20% of the acts danced and the rest sang.  
30 acts made it through to the final.  
21 of the acts in the final sang.

Show this information on a frequency tree.



Question 2: During a weekend 60 buses arrive in a village.

43 of the 50 buses that arrive on a Saturday are on time.  
2 of the buses that are on a Sunday are late.

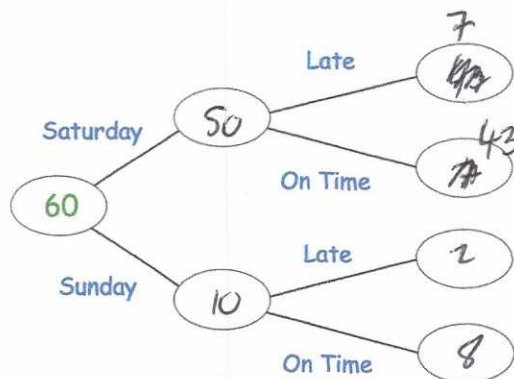
(a) Show this information on the frequency tree.

Tiernan says

"it is more likely a bus will be late on a Saturday than on a Sunday."

(b) Explain why Tiernan is wrong.

Saturday - 14% late  
Sunday - 20% late

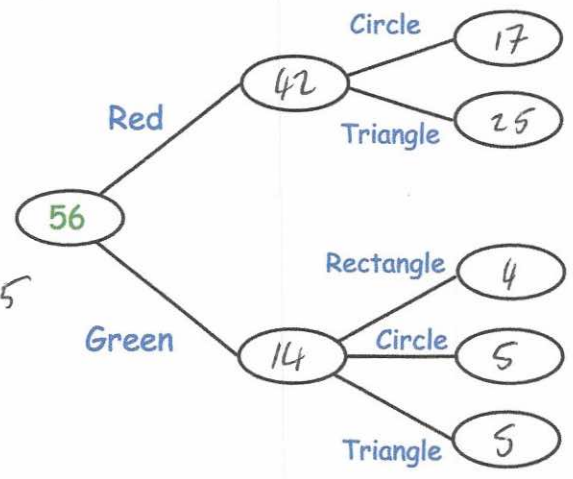


# Frequency Trees

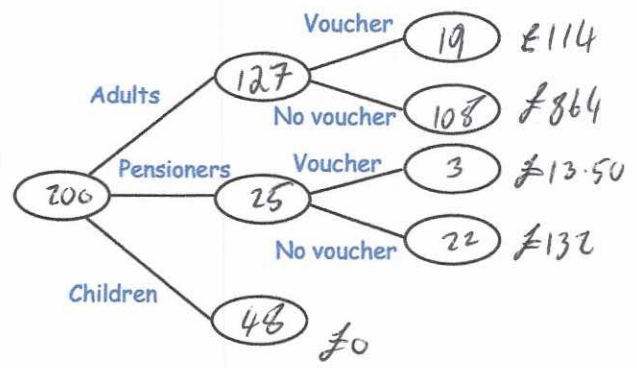
Video 376 on Corbettmaths

**Question 3:** Arya has 56 cards.  
 Each card has a shape on it.  
 Three times as many cards have red shapes than green shapes.  
 There are 8 more red triangles than red circles.  
 There are an equal number of green triangles than green circles.  
 There is one less green rectangle than green circle.

- (a) Show this information on a frequency tree.
- (b) Write down the ratio of red shapes to green shapes.  $3:1$
- (c) Write down the ratio of circles to triangles.  $11:15$
- (d) Write down the ratio of red circles to green circles.  $17:5$



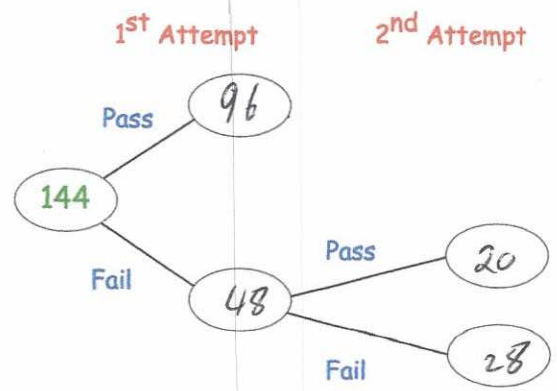
**Question 4:** Victoria organises a concert.  
 Each adult ticket costs £8  
 Each pensioner ticket costs £6  
 Children tickets are free.  
 $46$   $£4.50$   
 Some adults and pensioners have vouchers that give them to 25% off.  
 48 of the 200 tickets were for children.  
 19 of the adults had a voucher.  
 Only 3 of the 25 pensioners had a voucher.



Work out how much money Victoria raises through ticket sales.  
 $£1123.50$

**Question 5:** As part of a job interview, candidates have to pass an examination.  
 They are given two attempts to pass the examination.

There are 144 candidates.  
 The ratio of students who pass in their 1<sup>st</sup> attempt to fail their 1<sup>st</sup> attempt is 2:1  
 The ratio of students who pass in their 2<sup>nd</sup> attempt to fail their 2<sup>nd</sup> attempt is 5:7  
 Complete the frequency tree.



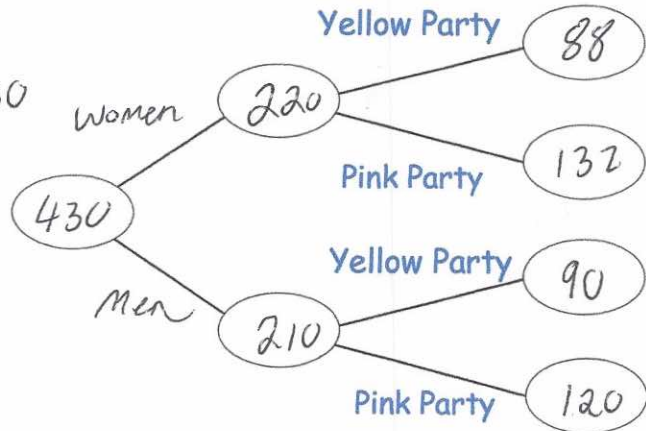
## Frequency Trees

Video 376 on Corbettmaths

Question 6: The Yellow Party and the Pink Party stand in a local election.  
 The ratio of women who voted for the Yellow Party to the Pink Party was 2:3  
 The ratio of men who voted for the Yellow Party to the Pink Party was 3:4  
 220 women voted  
 120 men voted for the Pink Party.

- (a) Complete the frequency tree.  
 (b) How many people voted altogether? 430  
 (c) What percentage of people voted for the Pink Party?

58.6%



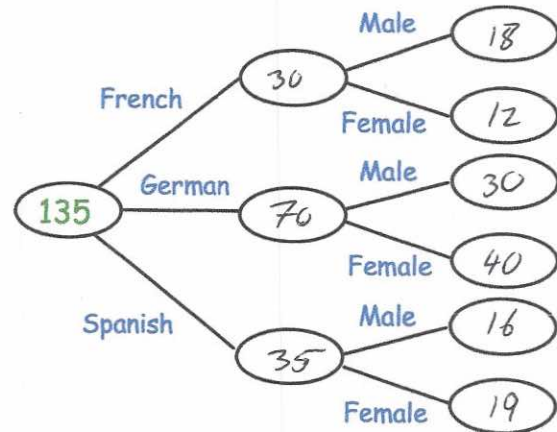
Question 7: In a school, all 135 students study one language.

Twice as many students study German than Spanish.  
 5 more students study Spanish than French.

10 more females than males study German.  
 60% of the students studying French are male.  
 16 males study Spanish.

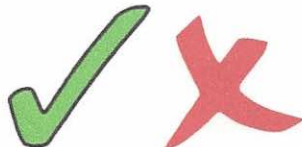
How many of the students are female?

$$\begin{aligned}
 x + 2x + (x - 5) &= 135 \\
 4x &= 140 \\
 x &= 35
 \end{aligned}$$



$$12 + 40 + 19 = 71$$

Answers



Click here