

# P30- Frequency Tree's

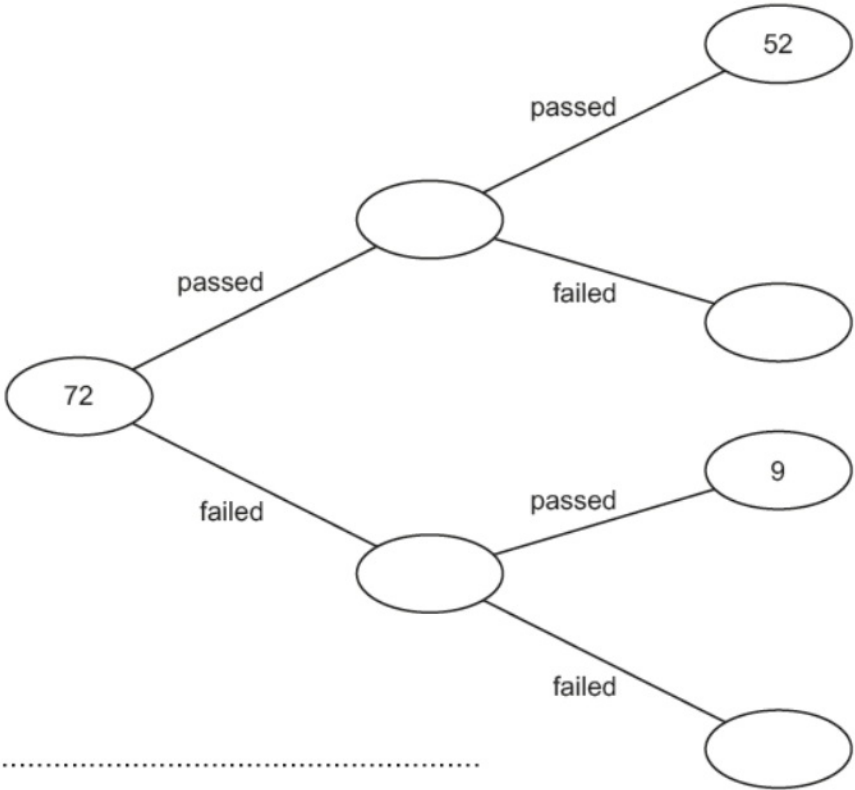
OCR

Created by W Neill

8 72 students each took a theory test followed by a practical test. They either passed or failed each test.

This frequency tree shows some of the results.

Theory test                      Practical test



(a) How many students passed both tests?

(b)  $\frac{5}{6}$  of the 72 students passed the theory test.

Complete the frequency tree.

(c) Which test was passed by more students? Explain your reasoning.

..... because .....

.....

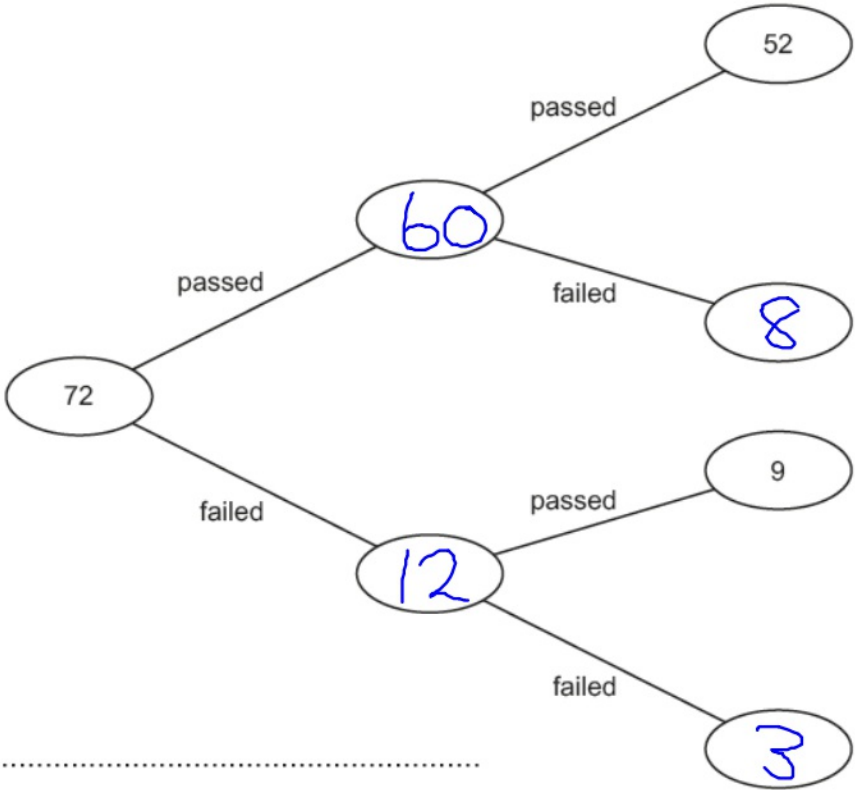
..... [3]

Created by W Neill

8 72 students each took a theory test followed by a practical test. They either passed or failed each test.

This frequency tree shows some of the results.

Theory test                      Practical test



(a) How many students passed both tests?

52 ✓

(b)  $\frac{5}{6}$  of the 72 students passed the theory test.

Complete the frequency tree.

$\frac{5}{6}$  of 72 = 60 passed theory

(c) Which test was passed by more students? Explain your reasoning.

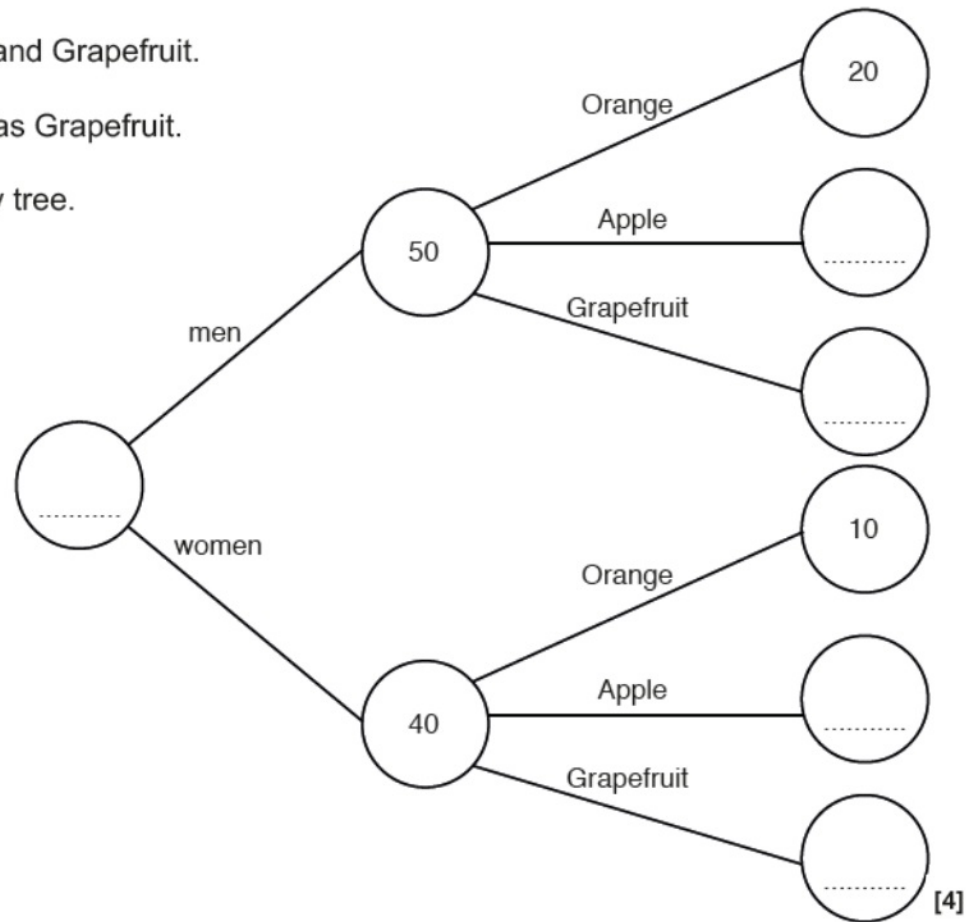
Theory =  $\frac{60}{72}$  ..... because .....

Practical =  $\frac{61}{72}$  Practical was passed by more as  $\frac{61}{72} > \frac{60}{72}$  [3]

7 (a) A hotel manager asked some people to choose their favourite breakfast fruit juice. They each chose one from Orange, Apple or Grapefruit.

- 20 men chose Orange
- Equal numbers of men chose Apple and Grapefruit.
- 10 women chose Orange
- Twice as many women chose Apple as Grapefruit.

Use this information to complete the frequency tree.

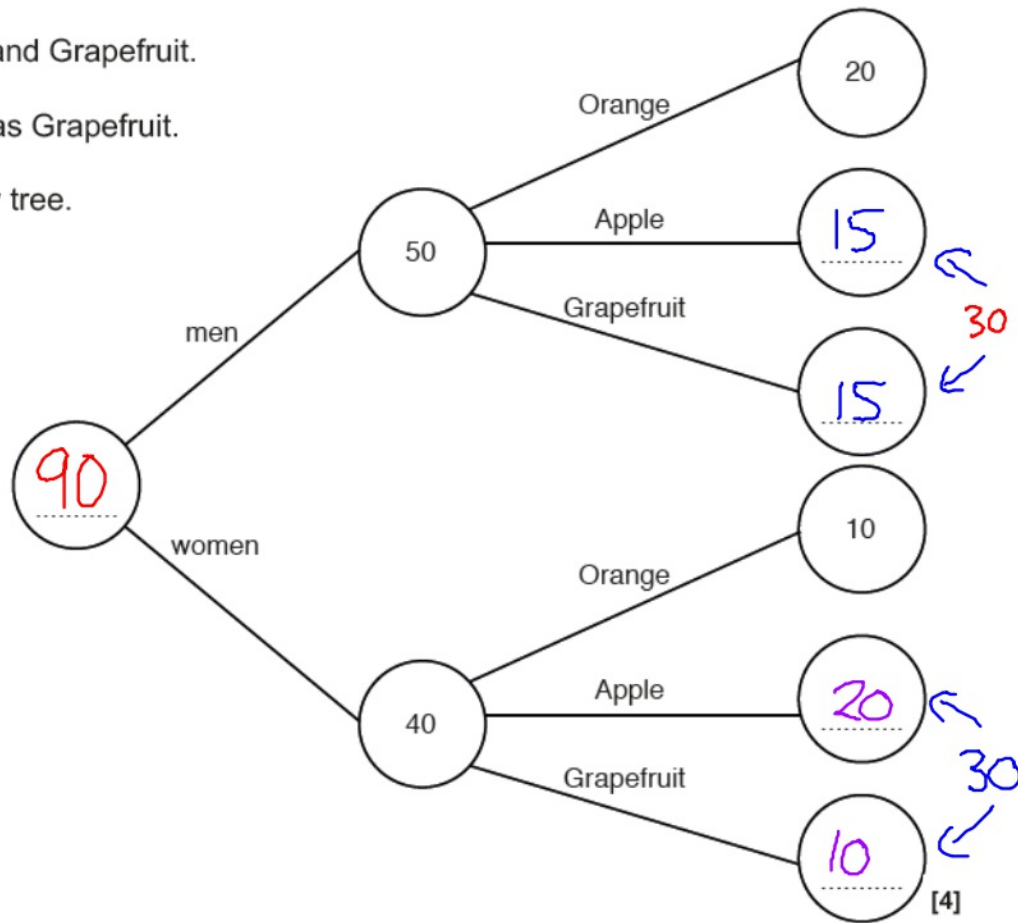


7 (a) A hotel manager asked some people to choose their favourite breakfast fruit juice. They each chose one from Orange, Apple or Grapefruit.

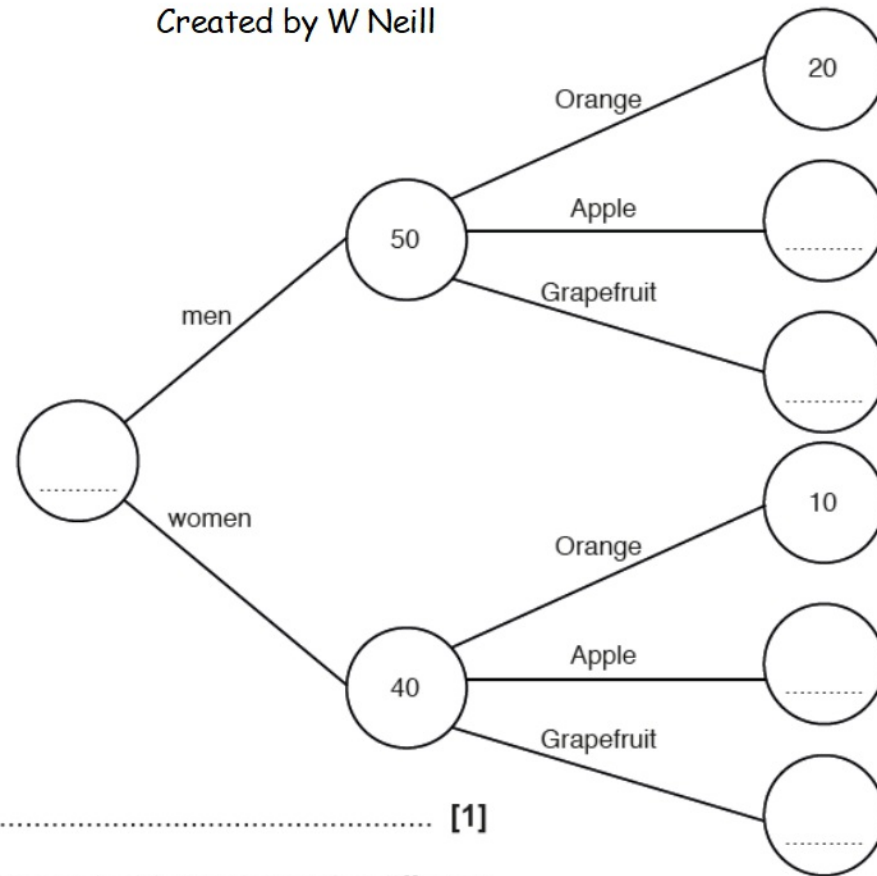
- 20 men chose Orange
- Equal numbers of men chose Apple and Grapefruit.
- 10 women chose Orange
- Twice as many women chose Apple as Grapefruit.

Use this information to complete the frequency tree.

30 people      2 : 1  
                  20    10  
30 = 3 parts  
10 = 1 part



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**(b)** In one week 200 men have breakfast at the hotel.

**(i)** How many men may be expected to drink Orange?

**(b)(i)** ..... [1]

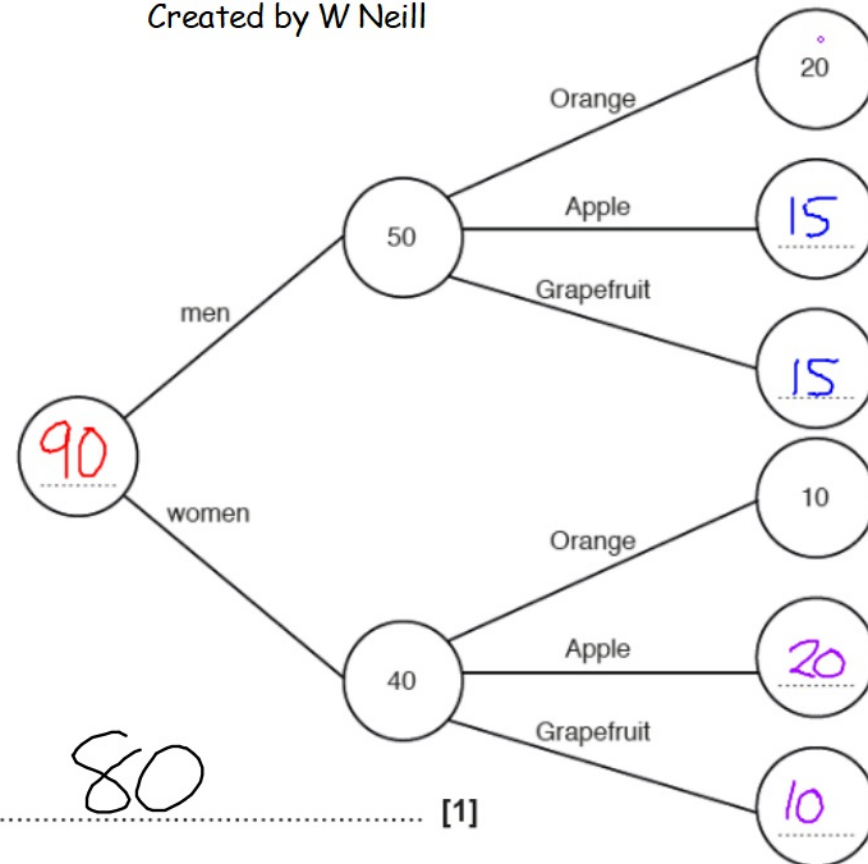
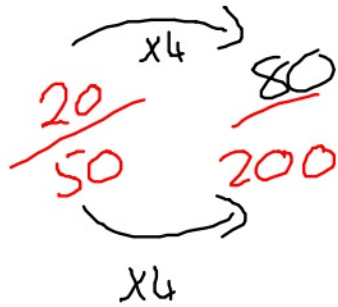
**(ii)** Give one reason why the number of men who drink Orange in this week may be different to your answer to part **(b)(i)**.

.....

..... [1]

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b) 20 men



(b) In one week 200 men have breakfast at the hotel.

(i) How many men may be expected to drink Orange?

(b)(i) 80 [1]

(ii) Give one reason why the number of men who drink Orange in this week may be different to your answer to part (b)(i).

Likely to be different men [1]



Edexcel

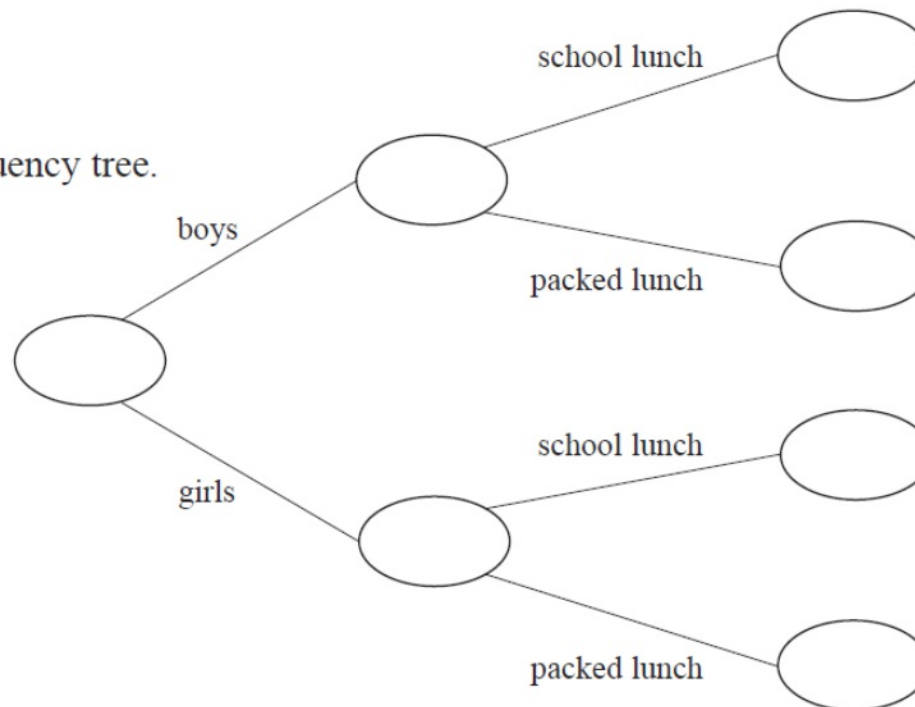
**16** There are 60 children in Year 6  
Each of these children has either a school lunch or a packed lunch.

**P30** 32 of the children are boys.

**R4a**  $\frac{3}{4}$  of the boys have a school lunch.

$\frac{1}{2}$  of the girls have a packed lunch.

Use this information to complete the frequency tree.



(Total for Question 16 is 4 marks)

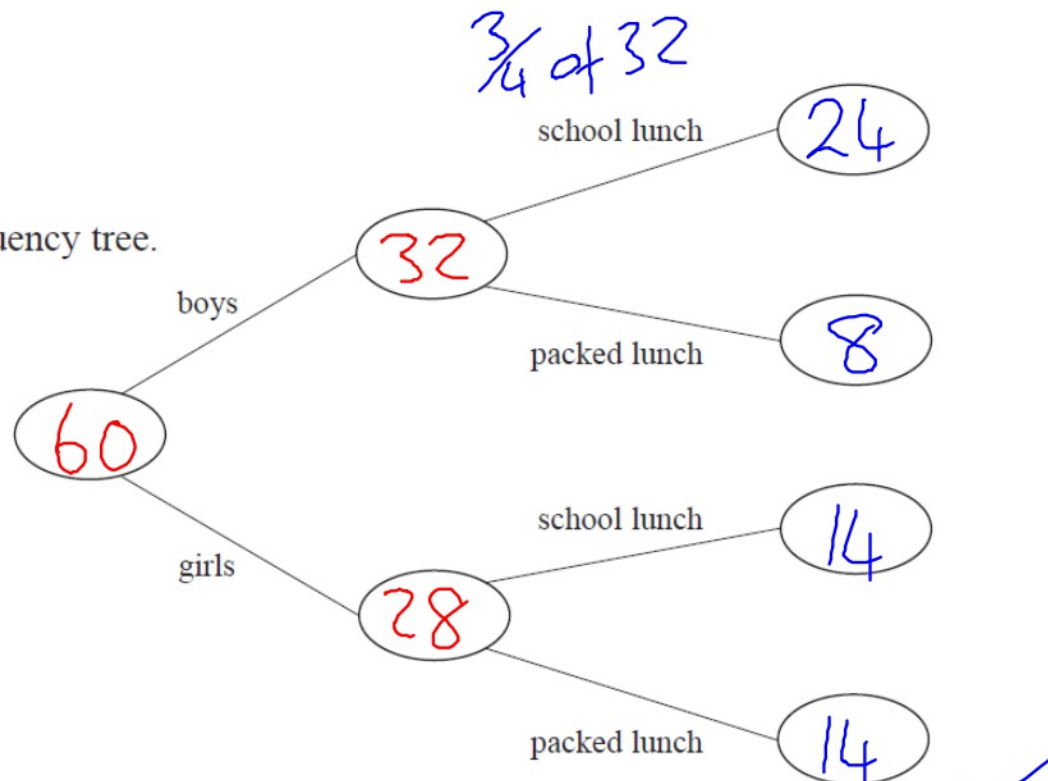
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**P30** 32 of the children are boys. ✓

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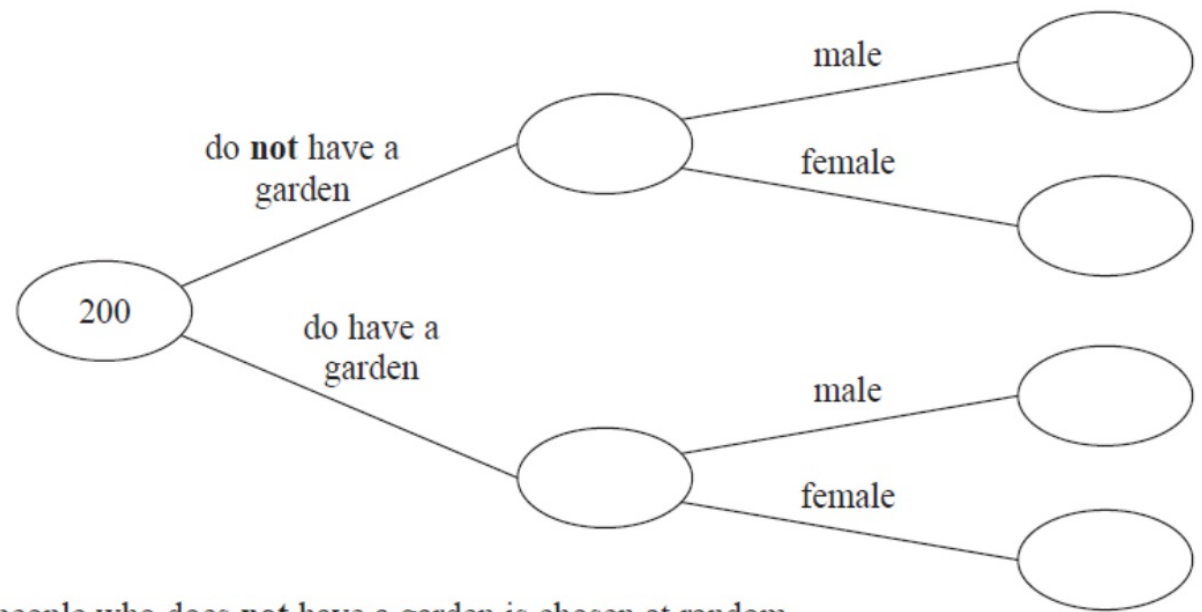
(Total for Question 16 is 4 marks)

12 200 people live in a village.

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23 people do **not** have a garden.  
10 males do **not** have a garden.  
95 people are male.

(a) Use this information to complete the frequency tree.



One of the people who does **not** have a garden is chosen at random.

(b) Write down the probability that this person is female.

12 200 people live in a village.

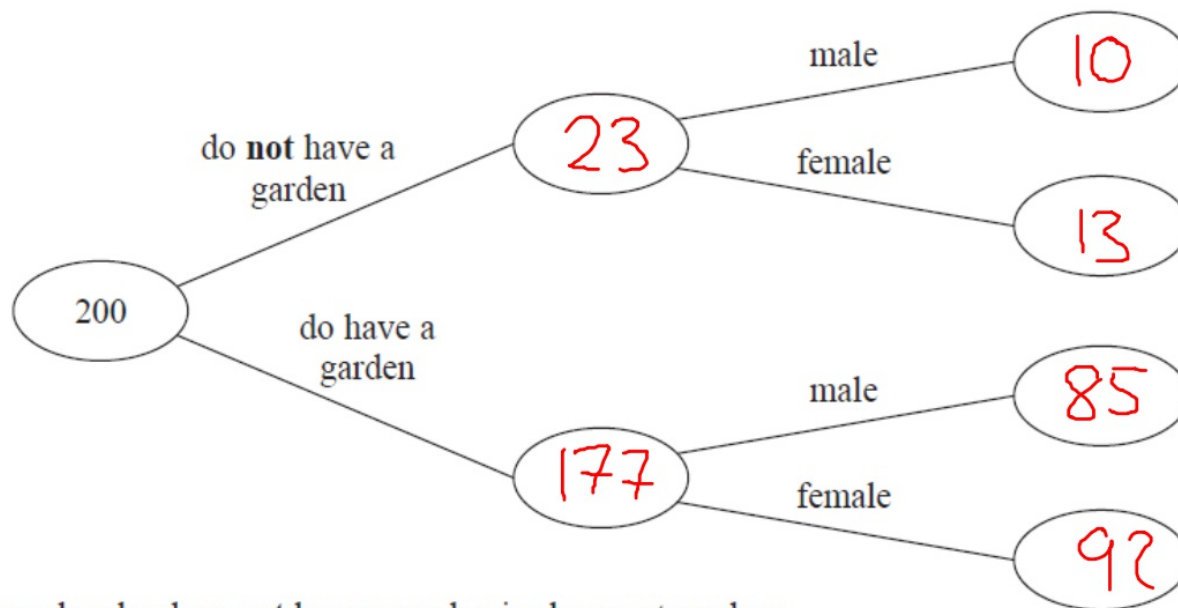
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95 people are male.

(a) Use this information to complete the frequency tree.



One of the people who does **not** have a garden is chosen at random.

(b) Write down the probability that this person is female.

$$\frac{13}{23} \quad (2) \checkmark$$

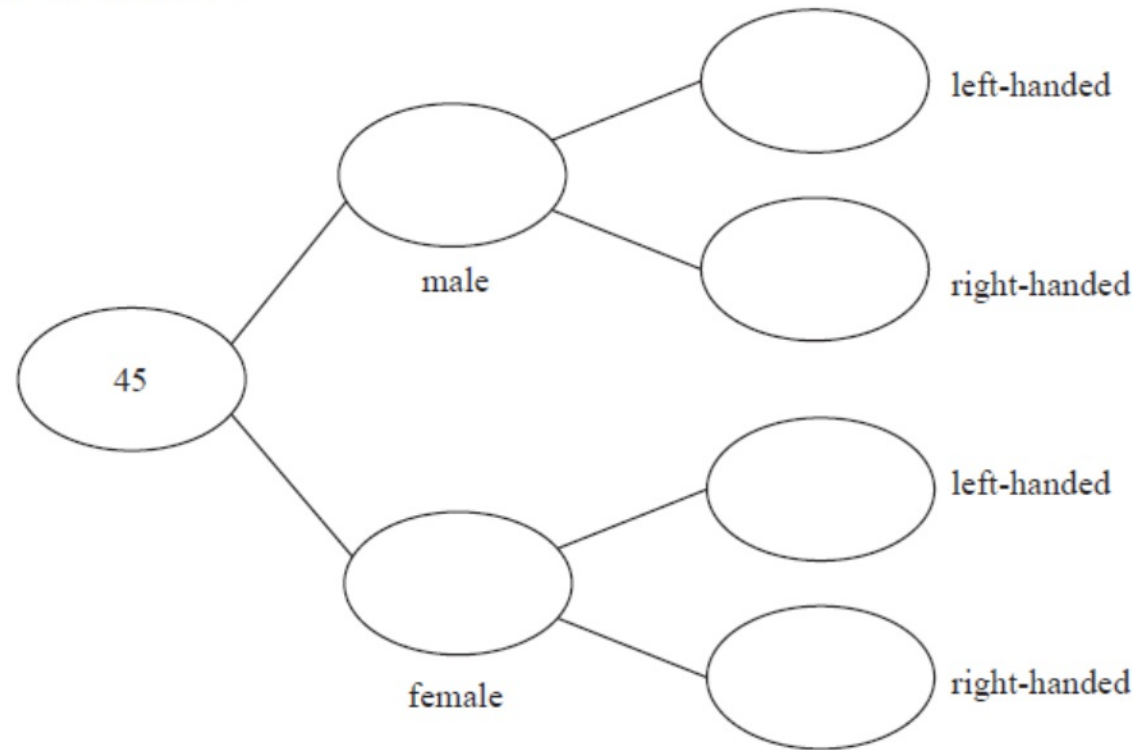
14 Each worker in a factory is either left-handed or right-handed.

Video created by W Neill

P30 22 of the 45 workers are male.

16 of the 34 right-handed workers are female.

Complete the frequency tree for this information.



(Total for Question 14 is 3 marks)

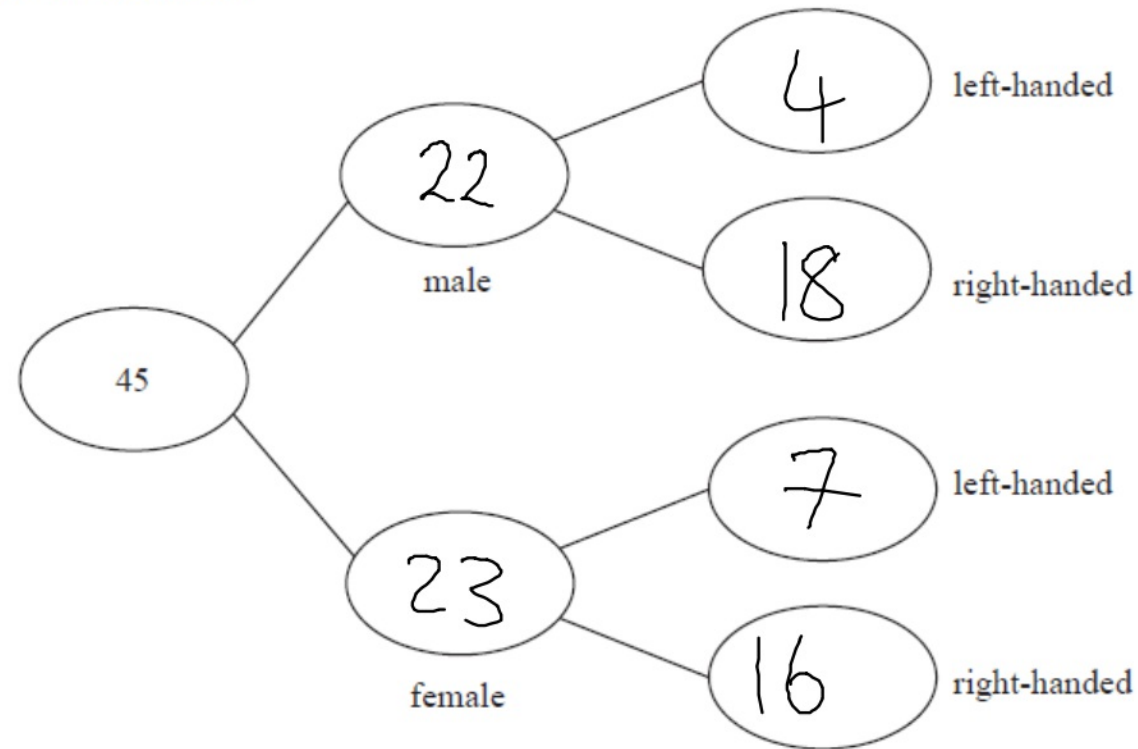
14 Each worker in a factory is either left-handed or right-handed.

Video created by W Neill

P30 22 of the 45 workers are male.  
16 of the 34 right-handed workers are female.

Complete the frequency tree for this information.

$$34 - 16 = 18$$

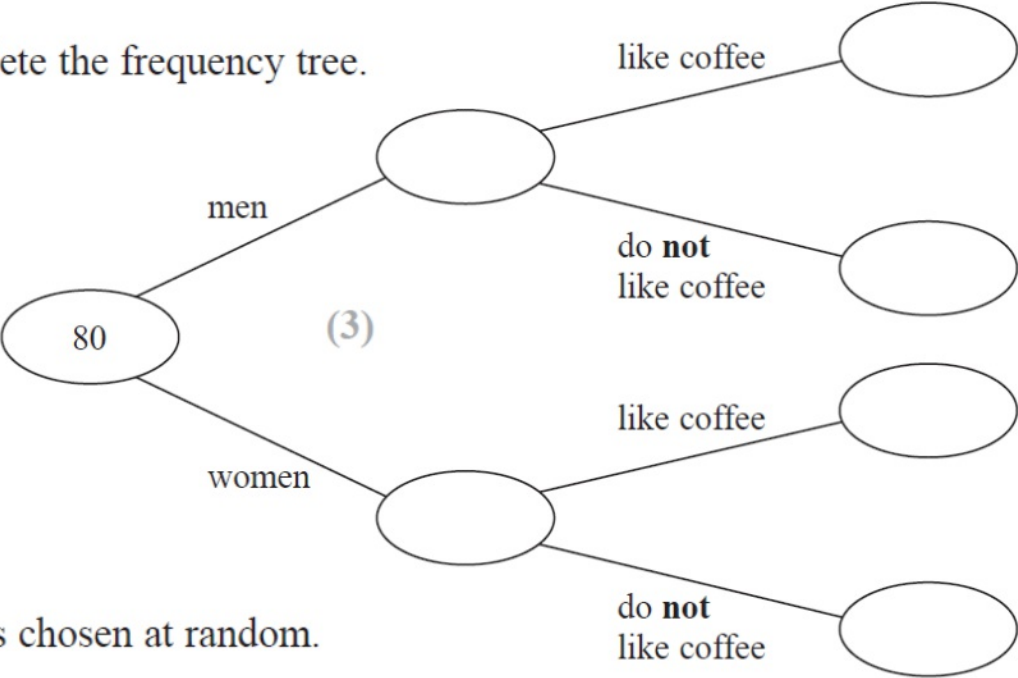


(Total for Question 14 is 3 marks)

17 80 people are asked if they like coffee.

P30 48 of these people are women.  
61 of the 80 people like coffee.  
8 of the men do **not** like coffee.

(a) Use this information to complete the frequency tree.



One of the people who like coffee is chosen at random.

(b) Find the probability that this person is a woman.

.....  
(2)

(Total for Question 17 is 5 marks)



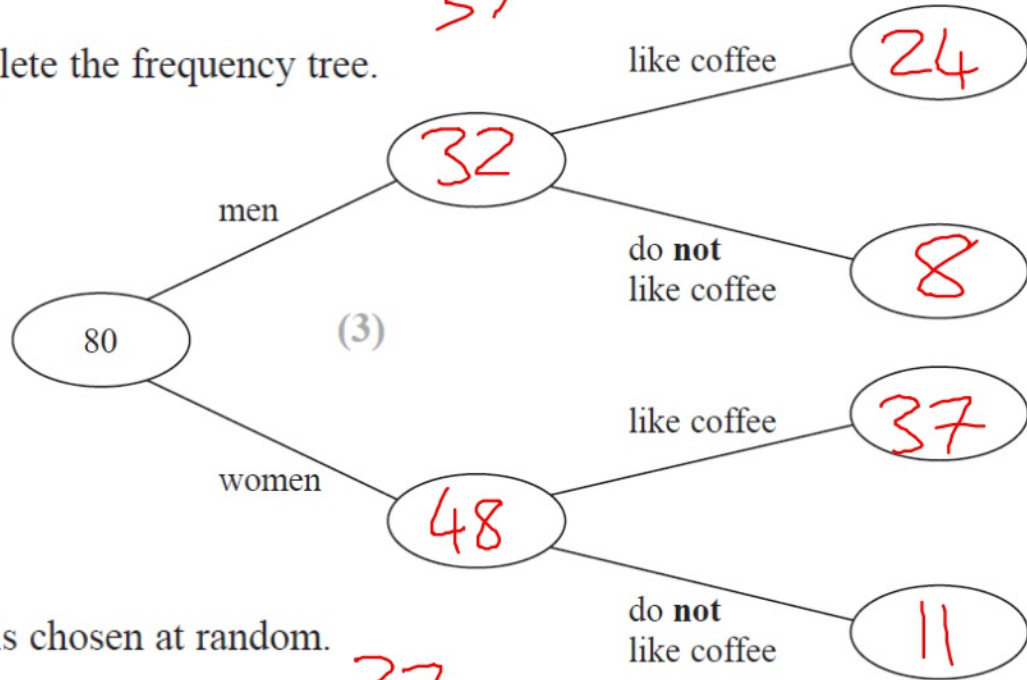
17 80 people are asked if they like coffee.

Video Created by W Neill

P30 48 of these people are women.  
61 of the 80 people like coffee.  
8 of the men do **not** like coffee.

$$\begin{array}{r} 61 \\ -24 \\ \hline 37 \end{array}$$

(a) Use this information to complete the frequency tree.



One of the people who like coffee is chosen at random.

(b) Find the probability that this person is a woman.

$$\frac{37}{61} \checkmark$$

(2)

(Total for Question 17 is 5 marks)

AQA

6 500 people are asked if they drink coffee.

Video created by W Neill

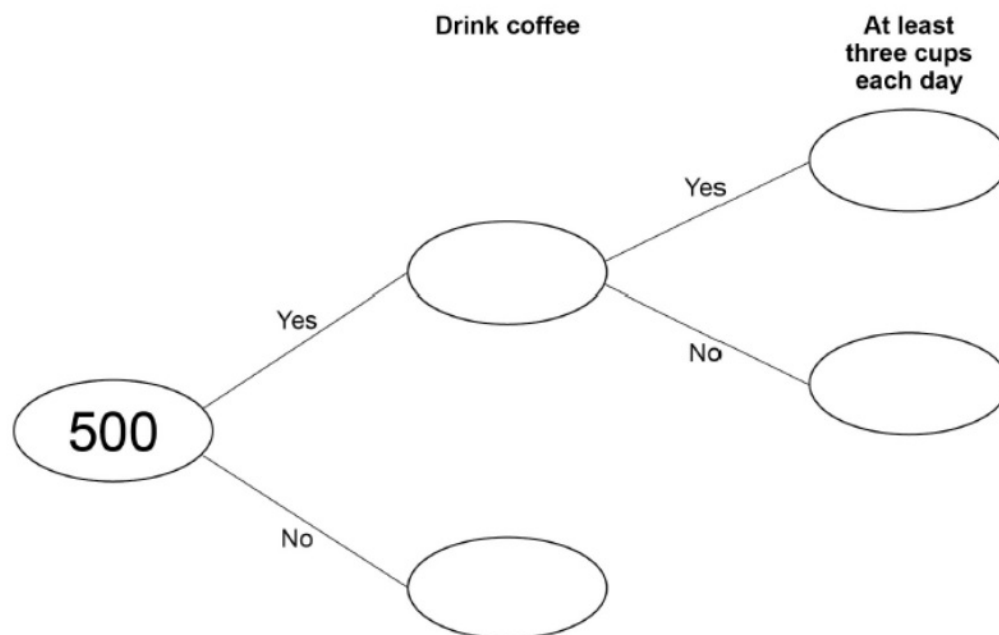
$\frac{9}{10}$  say Yes.

20% of the people who say Yes drink at least three cups each day.

6 (a) Complete the frequency tree.

[4 marks]

R4a  
R7  
P30



6

500 people are asked if they drink coffee.

Video created by W Neill

$\frac{9}{10}$  say Yes.

20% of the people who say Yes drink at least three cups each day.

$\frac{9}{10}$  of 500

$$500 \div 10 = 50$$

$$\frac{9}{10} = 50$$

[4 marks]

$$\frac{9}{10} = 450$$

$$20\% \text{ of } 450$$

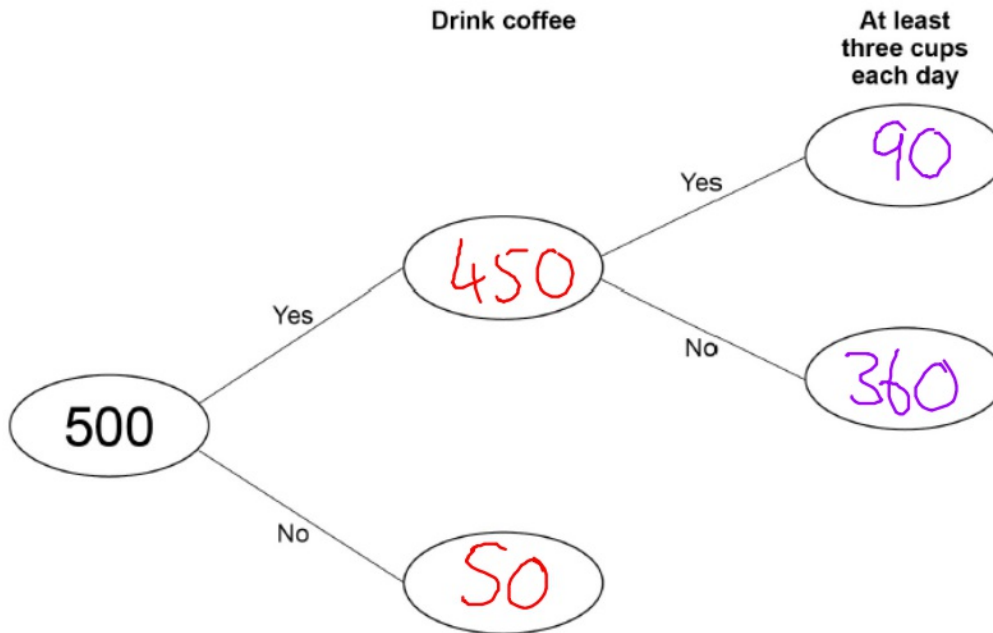
$$10\% = 45$$

$$20\% = 90$$

$$450 - 90 = 360$$

6 (a) Complete the frequency tree.

R4a  
R7  
P30

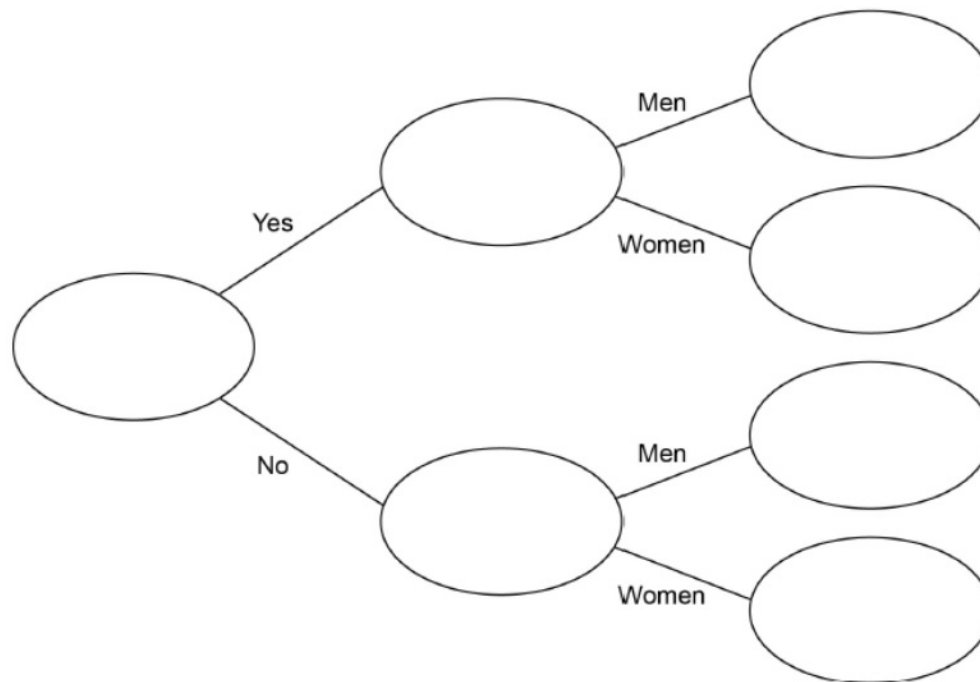


- 26** 42 men and 38 women visit a restaurant.  
44 of these people have a voucher.  
Three times as many men as women do **not** have a voucher.

**26 (a)** Complete the frequency tree.

**[4 marks]**

P30



26

42 men and 38 women visit a restaurant.

44 of these people have a voucher.

Three times as many men as women do **not** have a voucher.

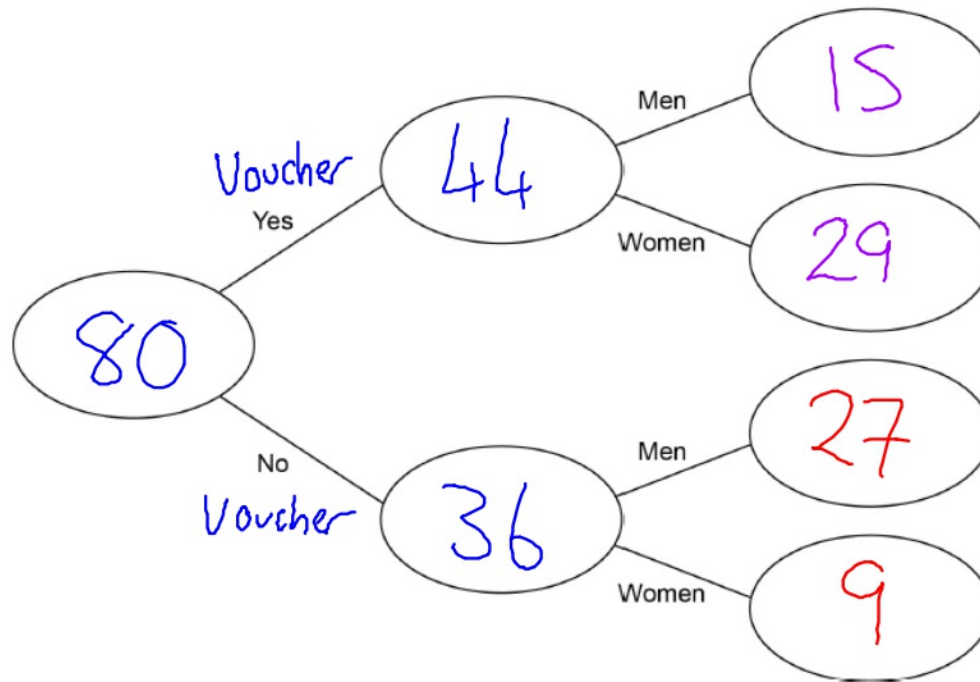
$$42 + 38 = 80$$

Video created by W Neill

(a) Complete the frequency tree.

Total → 38 women  
9 don't  
29 do  
[4 marks]

P30



Total men → 42  
27 no voucher  
15 do

Men : Women  
 $27 - 3 : 1 - 9$   
 $36 = 4 \text{ parts}$   
 $9 = 1 \text{ part}$

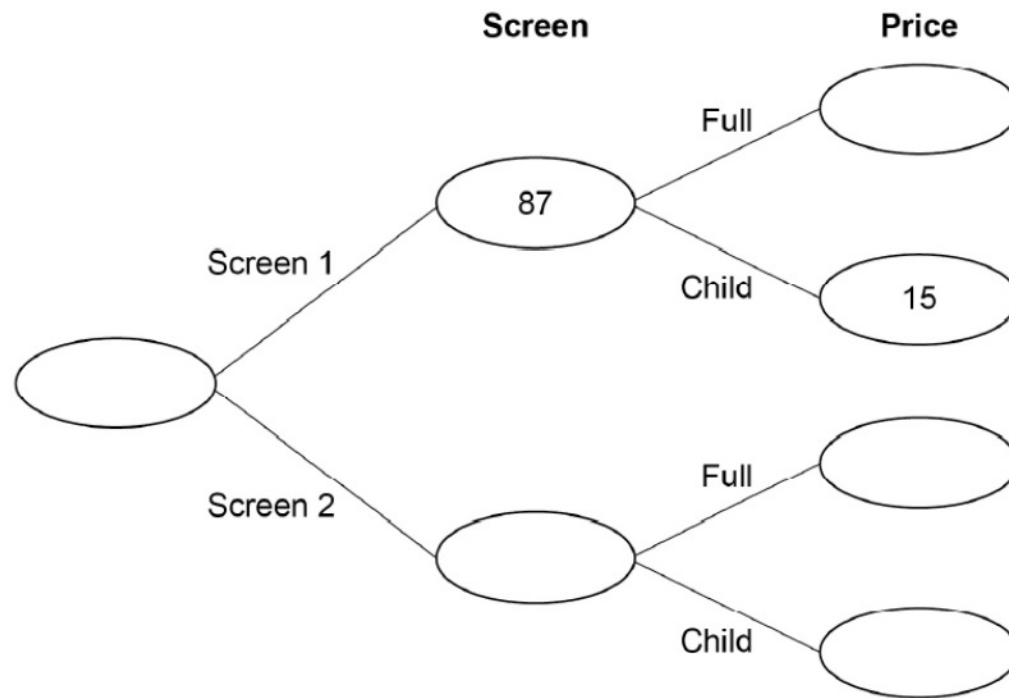
8 At a cinema, films are shown on Screen 1 and Screen 2  
Customers pay full price or child price.

P30

There are three times as many customers in Screen 2 as Screen 1  
68 customers paid child price.

Complete the frequency tree.

[5 marks]



8 At a cinema, films are shown on Screen 1 and Screen 2  
 Customers pay full price or child price.

P30

There are three times as many customers in Screen 2 as Screen 1

68 customers paid child price.

Complete the frequency tree.

$$\begin{array}{r} 261 \\ - 53 \\ \hline 208 \end{array}$$

[5 marks]

$$\begin{array}{r} 87 \\ \times 3 \\ \hline 261 \end{array}$$

$$\begin{array}{r} 261 \\ + 87 \\ \hline 348 \end{array}$$

