

Write your name here

Surname

Other names

Pearson Edexcel
Level 1 / Level 2
GCSE (9–1)

Centre Number

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Candidate Number

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Mathematics Shadow Paper Set A

Paper 1 (Non-Calculator)

Foundation Tier

Thursday 25 May 2017 – Morning
Time: 1 hour 30 minutes

Paper Reference

1MA1/1F

You must have: Ruler graduated in centimetres and millimetres,
protractor, pair of compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**



Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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P 4 8 1 3 4 A 0 1 2 0


Pearson

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Work out the value of 2^5

(Total for Question 1 is 1 mark)

- 2 Write 9.22971 correct to 3 decimal places.

(Total for Question 2 is 1 mark)

- 3 (a) Simplify $4 \times j \times k \times 7$

(1)

- (b) Solve $\frac{d}{4} = 3\frac{1}{2}$

$x =$
(1)

(Total for Question 3 is 2 marks)

- 4 Write $\frac{3}{5}$ as a percentage.

.....%

(Total for Question 4 is 1 mark)

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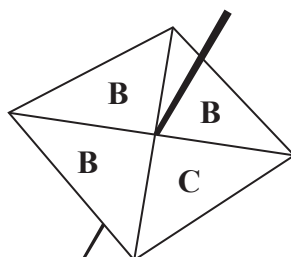
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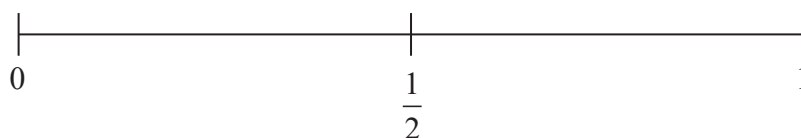
5 Work out 30% of 90

(Total for Question 5 is 2 marks)

6 Sammy spins a fair 4-sided spinner.

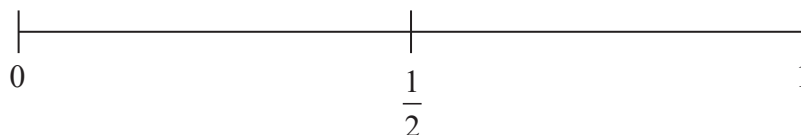


- (i) On the probability scale, mark with a cross (×) the probability that the spinner will land on C.



(1)

- (ii) On the probability scale, mark with a cross (×) the probability that the spinner will land on B.



(1)

(Total for Question 6 is 2 marks)

7 Fahima buys

5 packets of bread rolls costing £1.50 for each packet

1 bottle of ketchup costing £1.60

4 packets of sausages

Fahima pays with a £20 note.

She gets £1.30 change.

Fahima works out that one packet of sausages costs £2.45

Is Fahima right?

You must show how you get your answer.

(Total for Question 7 is 3 marks)

8 (a) Work out $\frac{7}{8} \times \frac{6}{11}$

(1)

(b) Work out $\frac{3}{4} - \frac{2}{3}$

(2)

(Total for Question 8 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Work out the value of 2^4

.....
(Total for Question 1 is 1 mark)

- 2 Write 7.26451 correct to 3 decimal places.

.....
(Total for Question 2 is 1 mark)

- 3 (a) Simplify $7 \times e \times f \times 8$

.....
(1)

- (b) Solve $\frac{x}{5} = 2\frac{1}{2}$

$x =$
(1)

(Total for Question 3 is 2 marks)

- 4 Write $\frac{4}{5}$ as a percentage.

..... %
(Total for Question 4 is 1 mark)

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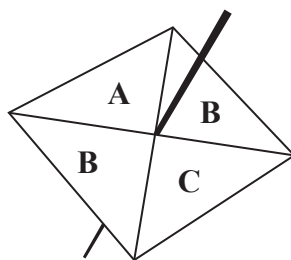
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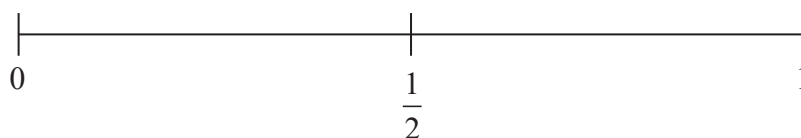
5 Work out 60% of 70

(Total for Question 5 is 2 marks)

6 Sammy spins a fair 4-sided spinner.

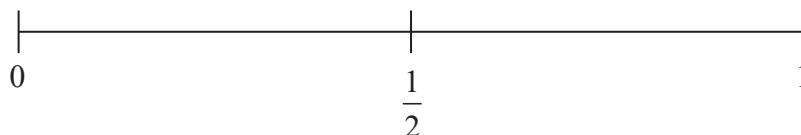


- (i) On the probability scale, mark with a cross (×) the probability that the spinner will land on **B**.



(1)

- (ii) On the probability scale, mark with a cross (×) the probability that the spinner will land on **F**.



(1)

(Total for Question 6 is 2 marks)

7 Fahima buys

2 packets of bread rolls costing £1.50 for each packet

1 bottle of ketchup costing £1.60

3 packets of sausages

Fahima pays with a £10 note.

She gets 30p change.

Fahima works out that one packet of sausages costs £2.30

Is Fahima right?

You must show how you get your answer.

(Total for Question 7 is 3 marks)

8 (a) Work out $\frac{5}{8} \times \frac{3}{4}$

(1)

(b) Work out $\frac{2}{3} - \frac{1}{4}$

(2)

(Total for Question 8 is 3 marks)



- 9 Sean works for a company.
His normal rate of pay is £12 per hour.

When Sean works more than 8 hours a day, he is paid overtime for each hour he works more than 8 hours.

Sean's rate of overtime pay per hour is $1\frac{1}{4}$ times his normal rate of pay per hour.

On Monday Sean worked for 10 hours.

Work out the total amount of money Sean earned on Monday.

£.....

(Total for Question 9 is 4 marks)

- 10 A farmer has 20 boxes of eggs.
There are 6 eggs in each box.

Write, as a ratio, the number of eggs in two boxes to the total number of eggs.
Give your answer in its simplest form.

.....

(Total for Question 10 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Simplify $6p - 3p + 4p - p$

.....
(1)

(b) Simplify $k^5 + k^5$

.....
(1)

(c) Simplify $12 + 5f - f + 4c - 3f + 8 - 7c$

.....
(2)

(Total for Question 1 is 4 marks)

2 Write 872.34 correct to one significant figure.

.....
(Total for Question 2 is 1 mark)

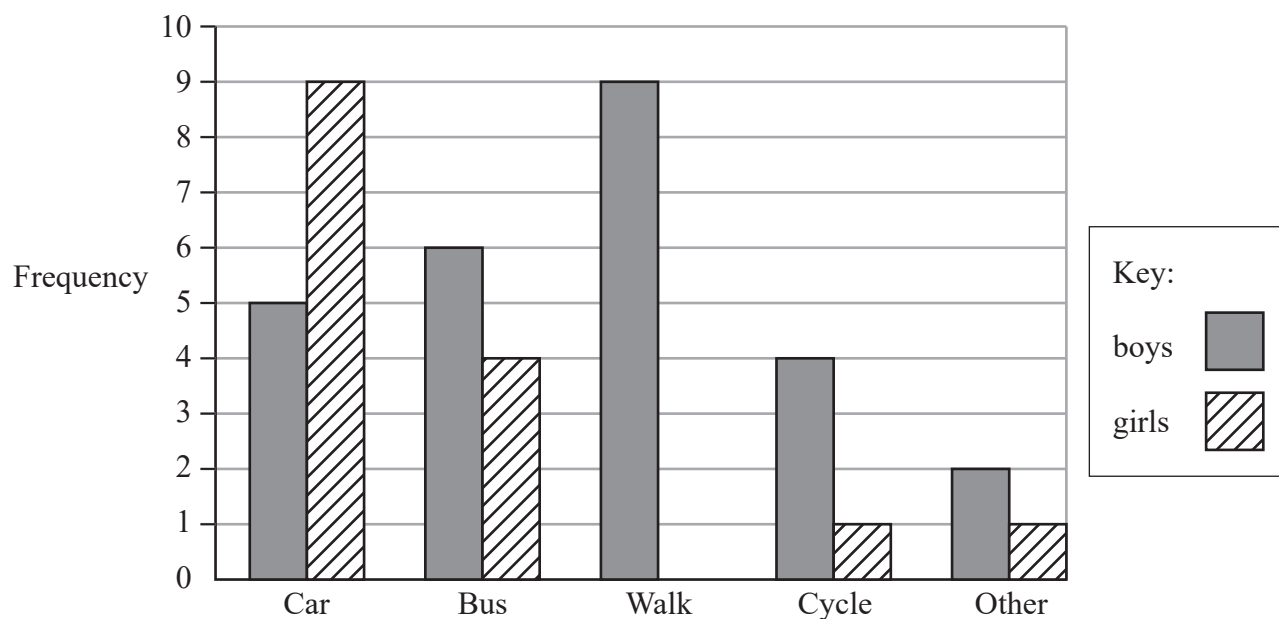
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- 3 A teacher asks the students in Year 6 what type of transport they use to get to school. The dual bar chart shows some of the results.



- (a) What is the most popular type of transport used by the girls?

(1)

9 girls walk to school.

- (b) Show this information on the dual bar chart.

(1)

More of the students get to school by car than by bicycle.

- (c) How many more?

(1)

There are ten more students in Year 5 than in Year 6.

- (d) What is the total number of students in Years 5 and 6?

(2)

(Total for Question 3 is 5 marks)



4 Here are four fractions.

$$\frac{3}{5}$$

$$\frac{13}{30}$$

$$\frac{1}{2}$$

$$\frac{2}{3}$$

Write these fractions in order of size.
Start with the smallest fraction.

(Total for Question 4 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Simplify $5p - 3p + p$

.....
(1)

(b) Simplify $m^3 + m^3$

.....
(1)

(c) Simplify $10 + 3c + 5d - 7c + d$

.....
(2)

(Total for Question 1 is 4 marks)

2 Write 56.78 correct to one significant figure.

.....
(Total for Question 2 is 1 mark)

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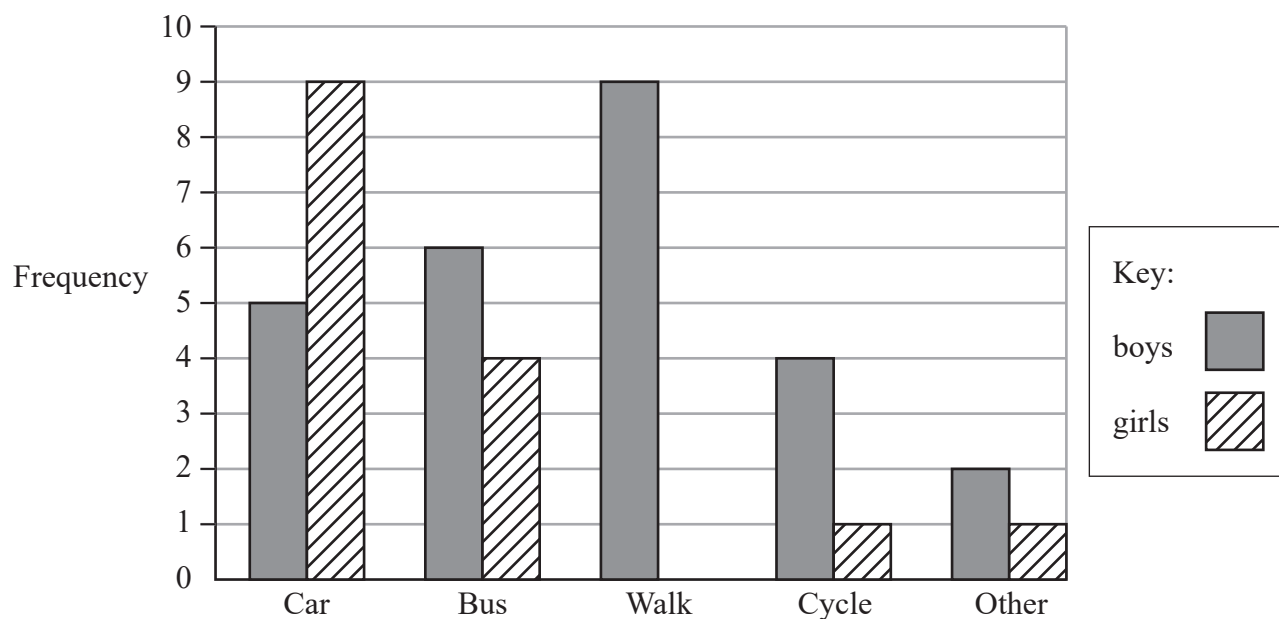


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- 3 A teacher asks the students in Year 6 what type of transport they use to get to school. The dual bar chart shows some of the results.



- (a) What is the most popular type of transport used by the boys?

(1)

7 girls walk to school.

- (b) Show this information on the dual bar chart.

(1)

More of the students get to school by car than by bus.

- (c) How many more?

(1)

The number of students in Year 5 is the same as the number of students in Year 6

- (d) What is the total number of students in Years 5 and 6?

(2)

(Total for Question 3 is 5 marks)



4 Here are four fractions.

$$\frac{2}{5}$$

$$\frac{11}{30}$$

$$\frac{1}{2}$$

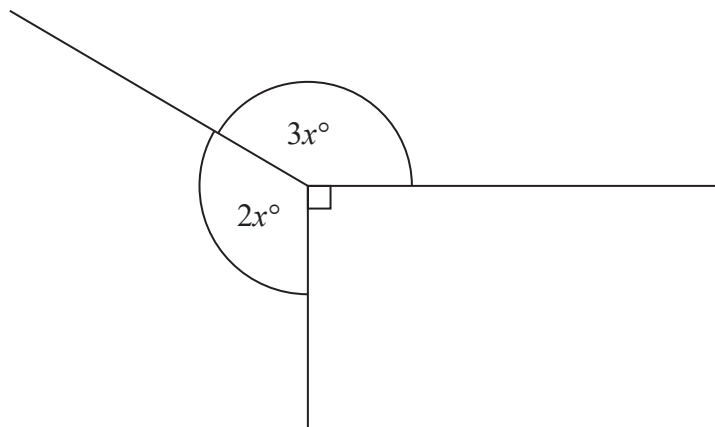
$$\frac{7}{15}$$

Write these fractions in order of size.
Start with the smallest fraction.

(Total for Question 4 is 2 marks)



9



Find the value of x .

(Total for Question 9 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** The table shows the lengths of five rivers.

River	Length (km)
Trent	297
Don	112
Severn	354
Thames	346
Mersey	113

- (a) Write down the rivers in order of length.

Start with the shortest river.

(1)

Ami says,

“The River Thames is more than three times as long as the River Don.”

- (b) Show that Ami is correct.

(1)

(Total for Question 1 is 2 marks)



- 2 Cups are sold in packs and in boxes.

There are 12 cups in each pack.

There are 18 cups in each box.

Alison buys p packs of cups and b boxes of cups.

Write down an expression, in terms of p and b , for the total number of cups Alison buys.

.....
(Total for Question 2 is 2 marks)

- 3 Here are four digits.

5 6 1 9

- (i) Write down the smallest possible two digit number that can be made with two of the digits.

.....
(1)

- (ii) Write down the three digit number closest to 200 that can be made with three of the digits.

.....
(1)

(Total for Question 3 is 2 marks)



- 4 $\frac{4}{5}$ of a number is 32

Find the number.

.....
(Total for Question 4 is 2 marks)

- 5 A path is made of white tiles and grey tiles.

$\frac{1}{4}$ of the tiles are white.

- (a) Write down the ratio of white tiles to grey tiles.

.....
(1)

There is a total of 56 tiles.

- (b) Work out the number of grey tiles.

.....
(2)

(Total for Question 5 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 (a) Change 365 cm into metres.

..... m
(1)

- (b) Change 2.7 kg into grams.

..... g
(1)

(Total for Question 1 is 2 marks)

- 2 Work out $2 + 7 \times 10$

.....

(Total for Question 2 is 1 mark)

- 3 Solve $\frac{y}{4} = 10.5$

$y =$

(Total for Question 3 is 1 mark)

- 4 Here are four numbers.

-9 -2 2 9

Write one of these numbers in each box to make a correct calculation.

$$\begin{array}{|c|} \hline \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = -7$$

(Total for Question 4 is 1 mark)



- 5 Here are the first four terms of a number sequence.

2 5 11 23

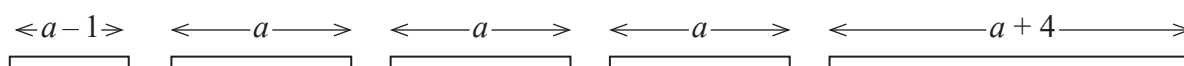
The rule to continue this sequence is

multiply the previous term by 2 and then add 1

Work out the 5th term of this sequence.

(Total for Question 5 is 1 mark)

- 6 Here are five straight rods.



All measurements are in centimetres.

The total length of the five rods is L cm.

Find a formula for L in terms of a .

Write your formula as simply as possible.

(Total for Question 6 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write $\frac{7}{100}$ as a decimal.

.....

(Total for Question 1 is 1 mark)

- 2 Write down a multiple of 6 that is between 40 and 50

.....

(Total for Question 2 is 1 mark)

- 3 (a) Simplify $3f \times 5g$

.....

(1)

- (b) Simplify $t \times t$

.....

(1)

- (c) Simplify $\frac{2n + 6n}{2}$

.....

(1)

(Total for Question 3 is 3 marks)



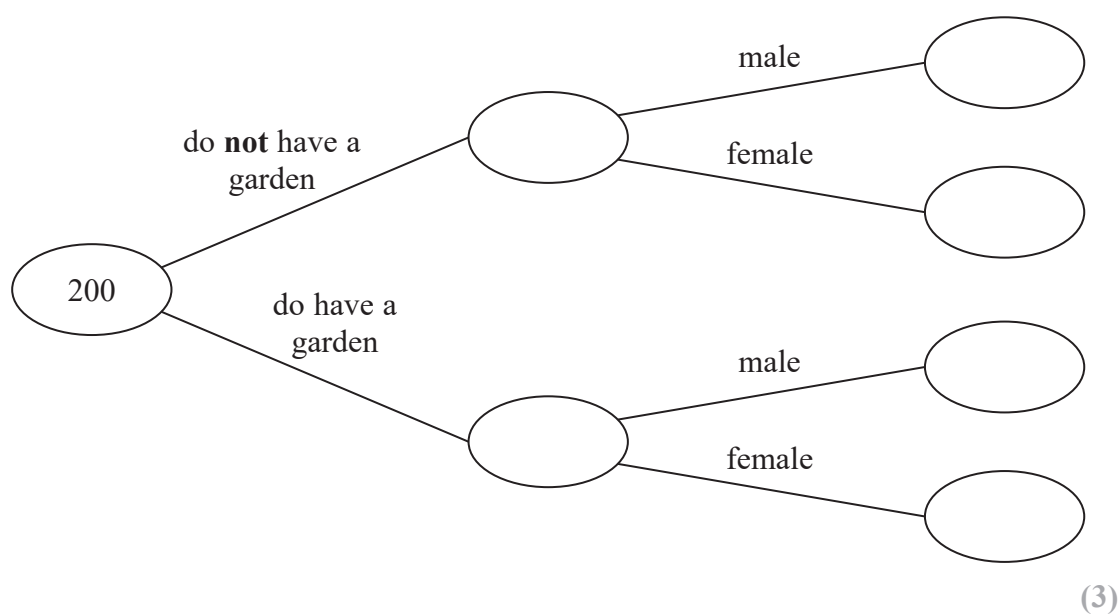
12 200 people live in a village.

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.

.....
(2)

(Total for Question 12 is 5 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 3758 correct to the nearest 1000

.....
(Total for Question 1 is 1 mark)

- 2** Simplify $y + 3y - 2y$

.....
(Total for Question 2 is 1 mark)

- 3** Write down all the factors of 18

.....
(Total for Question 3 is 2 marks)

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- 4 The table gives information about the prices of cinema tickets.

Cinema ticket	Price
adult ticket	£7.80
child ticket	£5.80
family ticket (for 4 people)	£24.30

Mr Edwards and his 3 children go to the cinema.

It is cheaper for Mr Edwards to buy 1 family ticket rather than 4 separate tickets.

- (a) How much cheaper?

.....
(3)

The film starts at 6.45 pm.
The film lasts 102 minutes.

- (b) What time does the film finish?

.....
(2)

(Total for Question 4 is 5 marks)



- 5 Thais has a large bottle of shampoo.
There are 2 litres of shampoo in the large bottle.

Thais also has some empty small bottles.
Each small bottle can be completely filled with 150 ml of shampoo.

How many small bottles can be completely filled with shampoo from the large bottle?

(Total for Question 5 is 3 marks)

- 6 The incomplete pictogram shows information about the number of cycles sold in a shop on Tuesday, on Wednesday and on Thursday.

Tuesday	
Wednesday	  
Thursday	 
Friday	
Saturday	

Key:

A total of 20 cycles were sold on Tuesday, Wednesday and Thursday.

8 cycles were sold on Friday.

15 cycles were sold on Saturday.

Use this information to complete the pictogram.

(Total for Question 6 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 4038 correct to the nearest thousand.

.....
(Total for Question 1 is 1 mark)

- 2** (a) Write the following numbers in order of size.
Start with the smallest number.

 -1 6 -2 0 12

.....
(1)

- (b) Write the following numbers in order of size.
Start with the smallest number.

 0.315 0.000513 0.00315 0.513

.....
(1)

(Total for Question 2 is 2 marks)

- 3** Write 60% as a fraction.

.....
(Total for Question 3 is 1 mark)



- 4 Here is a list of four fractions.

$$\frac{4}{16}$$

$$\frac{2}{12}$$

$$\frac{15}{60}$$

$$\frac{3}{4}$$

Two of these fractions are **not** equivalent to $\frac{1}{4}$

Write down these fractions.

.....

(Total for Question 4 is 1 mark)

- 5 Write down the first even multiple of 11

.....

(Total for Question 5 is 1 mark)

- 6 (a) Simplify $7 \times 3t$

.....

(1)

- (b) Simplify $6a - 4a + 7a$

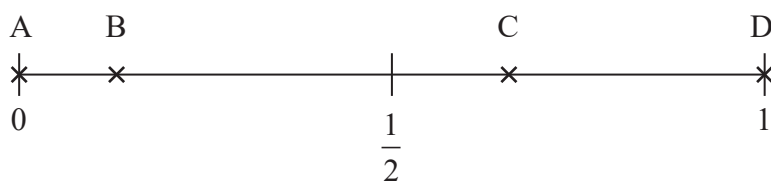
.....

(1)

(Total for Question 6 is 2 marks)



- 7 Here is a probability scale.
It shows the probability of each of the events A, B, C and D.



- (a) Write down the letter of the event that is impossible.

.....
(1)

- (b) Write down the letter of the event that is likely.

.....
(1)

There are 15 counters in a bag.

3 of the counters are red.

1 of the counters is blue.

2 of the counters are yellow.

The rest of the counters are green.

Caitlin takes at random a counter from the bag.

- (c) Show that the probability that this counter is red or green is $\frac{4}{5}$

(3)

(Total for Question 7 is 5 marks)



26 $\mathbf{a} = \begin{pmatrix} 5 \\ 2 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} -1 \\ 7 \end{pmatrix}$

Work out $2\mathbf{a} + 7\mathbf{b}$ as a column vector.

$$\begin{pmatrix} \\ \hline \\ \hline \end{pmatrix}$$

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 6324 correct to the nearest thousand.

.....
(Total for Question 1 is 1 mark)

- 2** (a) Write the following numbers in order of size.
Start with the smallest number.

−6 6 −5 0 12

.....
(1)

- (b) Write the following numbers in order of size.
Start with the smallest number.

0.078 0.78 0.87 0.708

.....
(1)

(Total for Question 2 is 2 marks)

- 3** Write 20% as a fraction.

.....
(Total for Question 3 is 1 mark)



- 4 Here is a list of four fractions.

$$\frac{4}{16}$$

$$\frac{2}{8}$$

$$\frac{15}{60}$$

$$\frac{3}{9}$$

One of these fractions is **not** equivalent to $\frac{1}{4}$

Write down this fraction.

.....

(Total for Question 4 is 1 mark)

- 5 Write down the first even multiple of 7

.....

(Total for Question 5 is 1 mark)

- 6 (a) Simplify $3 \times 4t$

.....

(1)

- (b) Simplify $8a - 3a + 2a$

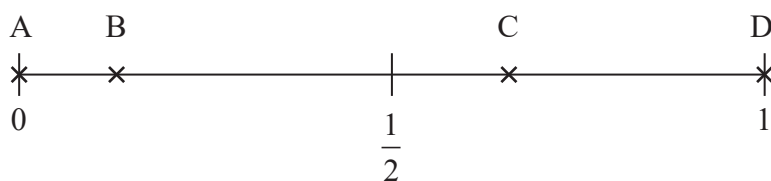
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(1)

(Total for Question 6 is 2 marks)



- 7 Here is a probability scale.
It shows the probability of each of the events A, B, C and D.



- (a) Write down the letter of the event that is certain.

.....
(1)

- (b) Write down the letter of the event that is unlikely.

.....
(1)

There are 12 counters in a bag.

3 of the counters are red.

1 of the counters is blue.

2 of the counters are yellow.

The rest of the counters are green.

Caitlin takes at random a counter from the bag.

- (c) Show that the probability that this counter is yellow or green is $\frac{2}{3}$

(3)

(Total for Question 7 is 5 marks)



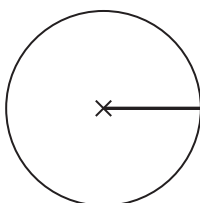
- 8 3 kg of meat costs £54
Nina buys 2 kg of the meat.

Work out how much Nina pays.

£

(Total for Question 8 is 2 marks)

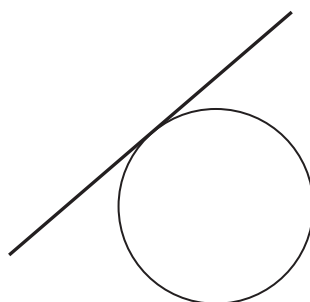
- 9 The centre of this circle is marked with a cross (×).



- (a) Write down the mathematical name of the straight line shown in the circle.

.....
(1)

- (b) Write down the mathematical name of the straight line that is touching the circle.



.....
(1)

(Total for Question 9 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write $\frac{7}{50}$ as a percentage.

.....%

(Total for Question 1 is 1 mark)

- 2 Write 2.38 correct to 1 decimal place.

.....

(Total for Question 2 is 1 mark)

- 3 Work out the value of 5^5

.....

(Total for Question 3 is 1 mark)

- 4 Write down a 6 digit number that has 3 as its thousands digit.
You can only use the digit 3 once.

.....

(Total for Question 4 is 1 mark)



- 5 (a) Change 72 cm to mm.

..... mm
(1)

- (b) Change 6400 millilitres to litres.

..... litres
(1)

- (c) Change 0.57 kilograms to grams.

..... grams
(1)

(Total for Question 5 is 3 marks)

- 6 Margaret is thinking of a number.
She says,

“My number is even. It is a factor of 36 and a multiple of 4”

There are three possible numbers Margaret can be thinking of.

Write down these three numbers.

.....
(Total for Question 6 is 3 marks)



7 Mohsin, Yusuf, Daisy and Luke are going to play a game.
At the end of the game, one of them will be in First place, one of them will be in Second place, one of them will be in Third place and one of them will be in Fourth place.

Use the table below to list all the possible outcomes of the game.

First	Second	Third	Fourth

(Total for Question 7 is 2 marks)

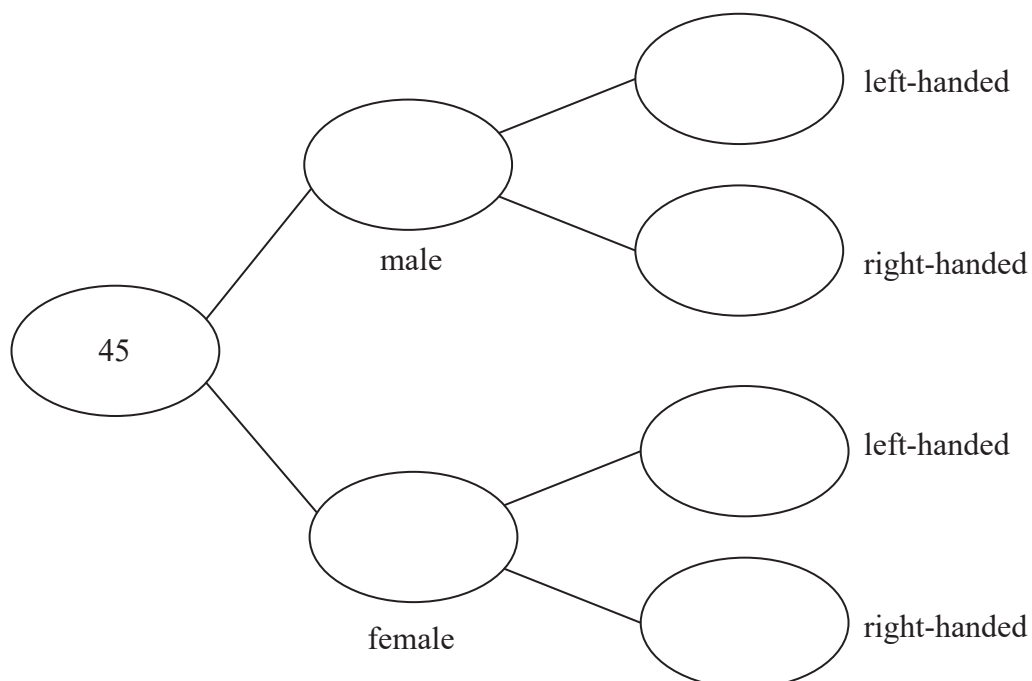


14 Each worker in a factory is either left-handed or right-handed.

21 of the 45 workers are male.

21 of the 38 right-handed workers are female.

Complete the frequency tree for this information.



(Total for Question 14 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write $\frac{4}{50}$ as a percentage.

.....%

(Total for Question 1 is 1 mark)

- 2 Write 1.59 correct to 1 decimal place.

.....

(Total for Question 2 is 1 mark)

- 3 Work out the value of 3^5

.....

(Total for Question 3 is 1 mark)

- 4 Write down a 6 digit number that has 4 as its thousands digit.
You can only use the digit 4 once.

.....

(Total for Question 4 is 1 mark)



- 5 (a) Change 35 cm to mm.

..... mm
(1)

- (b) Change 7700 millilitres to litres.

..... litres
(1)

- (c) Change 0.32 kilograms to grams.

..... grams
(1)

(Total for Question 5 is 3 marks)

- 6 Margaret is thinking of a number.
She says,

“My number is odd. It is a factor of 36 and a multiple of 3”

There are two possible numbers Margaret can be thinking of.

Write down these two numbers.

.....
(Total for Question 6 is 3 marks)



- 7 Mohsin, Yusuf and Luke are going to play a game.
At the end of the game, one of them will be in First place, one of them will be in Second place and one of them will be in Third place.

Use the table below to list all the possible outcomes of the game.

First place	Second place	Third place

(Total for Question 7 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write $\frac{3}{10}$ as a decimal.

.....
(Total for Question 1 is 1 mark)

- 2 Write 0.2 as a percentage.

..... %
(Total for Question 2 is 1 mark)

- 3 Write the number 4537 correct to the nearest hundred.

.....
(Total for Question 3 is 1 mark)

- 4 Here are the first 4 terms of a sequence.

9 17 25 33

- (a) (i) Write down the next term in the sequence.

.....
(1)

- (ii) Explain how you got your answer.

.....
(1)

- (b) Work out the 14th term of the sequence.

.....
(1)

(Total for Question 4 is 3 marks)

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5 Here are four digits.

1 8 4 7

(a) Use three of these digits to write down the largest possible 3-digit number.

.....
(1)

(b) Here are four different digits.

3 6 7 8

Put one of these digits in each box to give the smallest possible answer to the sum.
You must use each digit only once.

		+		
-------------	-------------	---	-------------	-------------

(1)

(Total for Question 5 is 2 marks)

6 Write down all the factors of 24

.....
(Total for Question 6 is 2 marks)



- 7 David has twice as many cousins as Becky.
Becky has twice as many cousins as Nishat.

Nishat has 9 cousins.

How many cousins does David have?

.....
(Total for Question 7 is 2 marks)

- 8 (a) Find the value of $\sqrt{5.76 \times 8.41}$

.....
(1)

- (b) Find the value of $(4.92 - 0.18)^2 - 8.192$

.....
(2)

(Total for Question 8 is 3 marks)

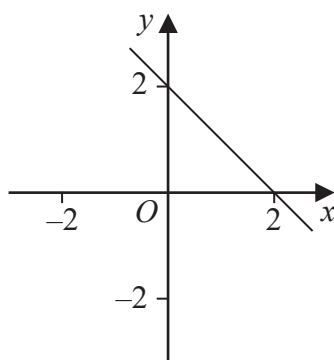


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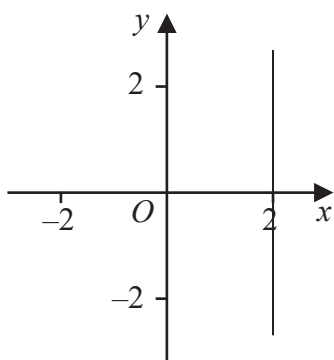
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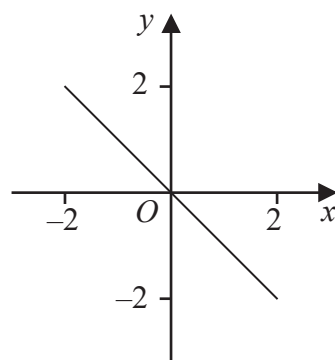
13 Here are six straight line graphs.



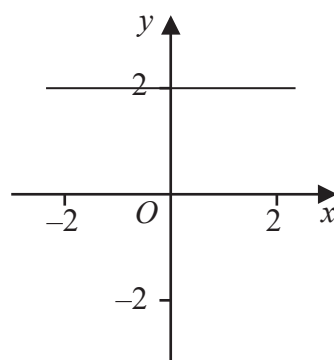
Graph A



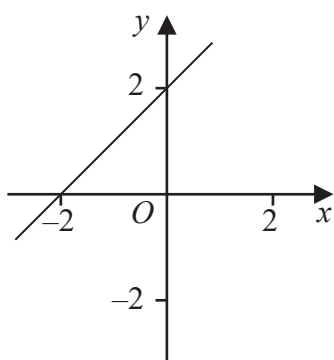
Graph B



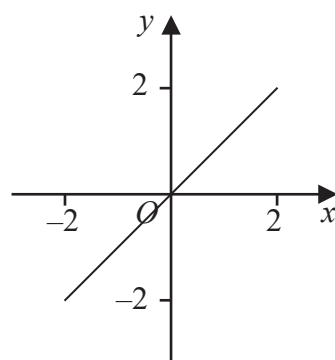
Graph C



Graph D



Graph E



Graph F

Match each equation in the table to the correct graph.
Write the letter of the graph in the table.

Equation	Graph
$y = 2 - x$	
$y = x$	
$y = x + 2$	

(Total for Question 13 is 2 marks)



14 Here are the marks 30 students got in a French test.

77	82	84	69	80	64	70	81	75	91
87	67	80	70	94	76	81	69	71	77
66	67	82	67	73	76	61	64	76	89

(a) Show this information in a stem and leaf diagram.



(3)

One of these students is going to be chosen at random.

The pass mark in the French test is 71

Omar writes,

The probability that this student failed the French test is $\frac{2}{3}$

Omar is wrong.

(b) Explain why.

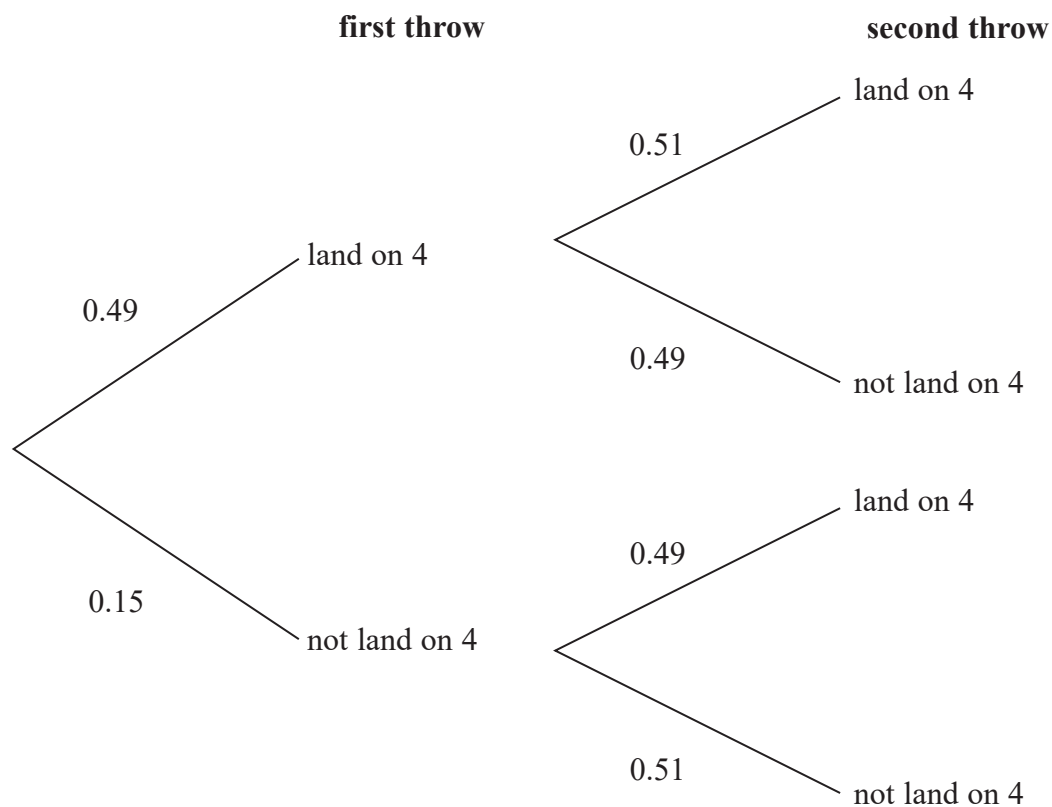
(2)

(Total for Question 14 is 5 marks)



- 22 When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.49
The biased dice is thrown twice.

Amir draws this probability tree diagram.
The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

1.....

.....

2.....

.....

(Total for Question 22 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write $\frac{9}{10}$ as a decimal.

.....
(Total for Question 1 is 1 mark)

- 2 Write 0.3 as a percentage.

..... %
(Total for Question 2 is 1 mark)

- 3 Write the number 2538 correct to the nearest hundred.

.....
(Total for Question 3 is 1 mark)

- 4 Here are the first 4 terms of a sequence.

2 9 16 23

- (a) (i) Write down the next term in the sequence.

.....
(1)

- (ii) Explain how you got your answer.

.....
(1)

- (b) Work out the 10th term of the sequence.

.....
(1)

(Total for Question 4 is 3 marks)

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DO NOT WRITE IN THIS AREA



5 Here are four digits.

7 3 4 9

(a) Use three of these digits to write down the largest possible 3-digit number.

.....
(1)

(b) Here are four different digits.

8 2 1 6

Put one of these digits in each box to give the smallest possible answer to the sum.
You must use each digit only once.

		+		
-------------	-------------	---	-------------	-------------

(1)

(Total for Question 5 is 2 marks)

6 Write down all the factors of 30

.....
(Total for Question 6 is 2 marks)



14 Here are the marks 20 students got in a French test.

76	82	84	69	80	64	70	81	75	91
87	67	80	70	94	76	81	69	71	77

(a) Show this information in a stem and leaf diagram.

(3)

One of these students is going to be chosen at random.

The pass mark in the French test is 71

Omar writes,

The probability that this student failed the French test is $\frac{1}{4}$

Omar is wrong.

(b) Explain why.

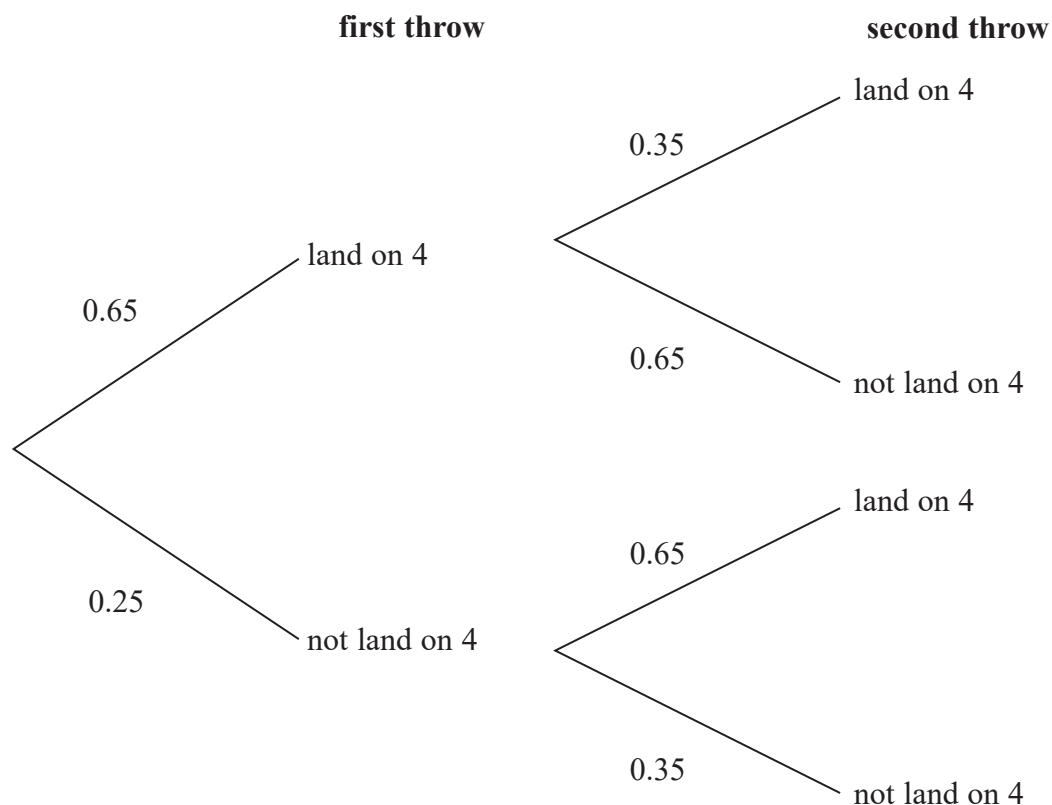
(2)

(Total for Question 14 is 5 marks)



- 22 When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.65
The biased dice is thrown twice.

Amir draws this probability tree diagram.
The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

1.....

.....

2.....

.....

(Total for Question 22 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write the following numbers in order of size.
Start with the smallest number.

0.4 0.02 0.37 0.152 0.2

.....
(Total for Question 1 is 1 mark)

- 2** Write 0.6 as a percentage.

..... %

(Total for Question 2 is 1 mark)

- 3** Here is a list of numbers.

3 5 7 12 15 18 20

From the list, write down a factor of 10

.....
(Total for Question 3 is 1 mark)

- 4** Write 7829 to the nearest 1000

.....
(Total for Question 4 is 1 mark)



5 (a) Work out $3 \times 5 + 7$

.....
(1)

(b) Work out 2^3

.....
(1)

(c) Write brackets () in this statement to make it correct.

$$7 \times 2 + 3 = 35$$

(1)

(Total for Question 5 is 3 marks)

6 Sue has 2 cats.

Each cat eats $\frac{1}{4}$ of a tin of cat food each day.

Sue buys 8 tins of cat food.

Has Sue bought enough cat food to feed her 2 cats for 14 days?
You must show how you get your answer.

(Total for Question 6 is 3 marks)



- 7 There are only apple trees, cherry trees, pear trees and plum trees in an orchard.

The pictogram shows information about the numbers of apple trees, cherry trees and pear trees in the orchard.

Apple	  
Cherry	 
Pear	 
Plum	

Key:

 represents 4 trees

There is a total of 30 trees in the orchard.

Complete the pictogram.

(Total for Question 7 is 3 marks)

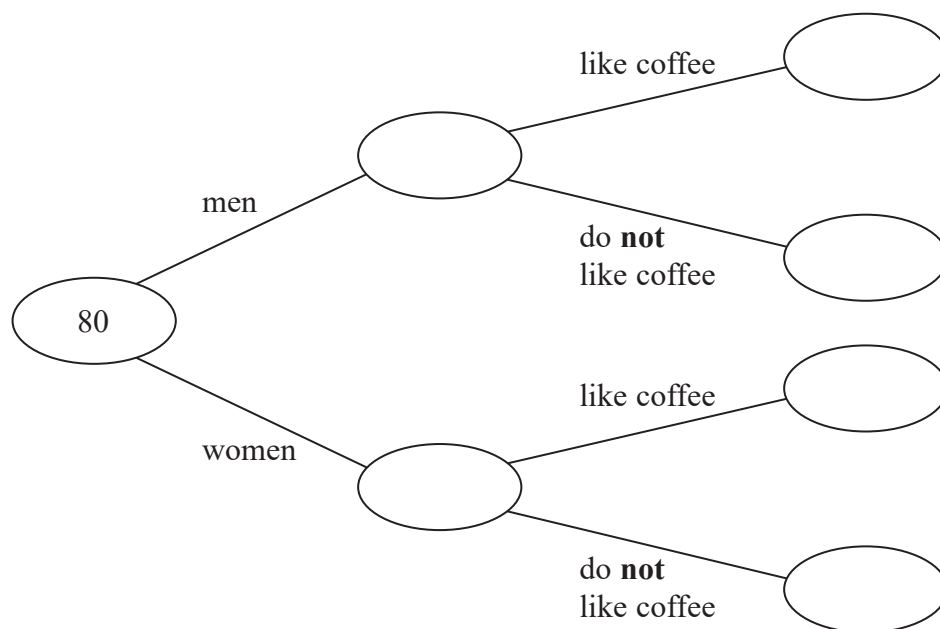
17 80 people are asked if they like coffee.

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.



(3)

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)



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first bag

$\frac{3}{10}$

red

green

second bag

$\frac{5}{9}$

red

green

(2)

(b) Work out the probability that Amina takes two red balls.

(2)

(Total for Question 27 is 4 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write down the value of the 4 in the number 542.3

.....

(Total for Question 1 is 1 mark)

- 2** Write down a square number that is also an odd number.

.....

(Total for Question 2 is 1 mark)

- 3** (a) Change 4560 g into kg.

.....kg
(1)

- (b) Change 7.3 m into mm.

.....mm
(1)

(Total for Question 3 is 2 marks)

- 4** Work out the cube root of 64

.....

(Total for Question 4 is 1 mark)

- 5** Write 0.31 as a fraction.

.....

(Total for Question 5 is 1 mark)

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6 Here are four fractions.

$$\frac{3}{4}$$

$$\frac{5}{7}$$

$$\frac{19}{25}$$

$$\frac{11}{15}$$

Write the fractions in order of size.
Start with the smallest fraction.

(Total for Question 6 is 2 marks)

7 (a) Simplify $3m - m - m + 3m$

(1)

(b) Simplify $2 \times n \times p \times 4$

(1)

(Total for Question 7 is 2 marks)

8 A map has a scale of 1 cm to 14 km.

On the map, the distance between Manchester and London is 18.8 cm.

What is the real distance, in km, between Manchester and London?

..... km

(Total for Question 8 is 2 marks)



- 9 (a) The n th term of a sequence is $3n + 4$

Explain why 21 is not a term of this sequence.

(2)

- (b) Here are the first three terms of a different sequence.

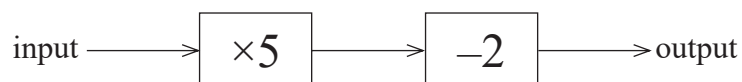
1 2 4

Write down two numbers that could be the 4th term and the 5th term of this sequence.
Give the rule you have used to get your numbers.

(2)

(Total for Question 9 is 4 marks)

- 10 Here is a number machine.



- (a) Work out the **output** when the input is 8

(1)

- (b) Work out the **input** when the output is 28

(2)

(Total for Question 10 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write a number in each box to make the calculation correct.

(i) $56.3 + \boxed{\text{.....}} = 100$ (1)

(ii) $\frac{2}{7} + \boxed{\text{.....}} = 1$ (1)

(Total for Question 1 is 2 marks)

2 Write 3% as a fraction.

(Total for Question 2 is 1 mark)

3 Find $\sqrt{1.44}$

(Total for Question 3 is 1 mark)

4 Work out $\frac{1}{8}$ of 720

(Total for Question 4 is 1 mark)

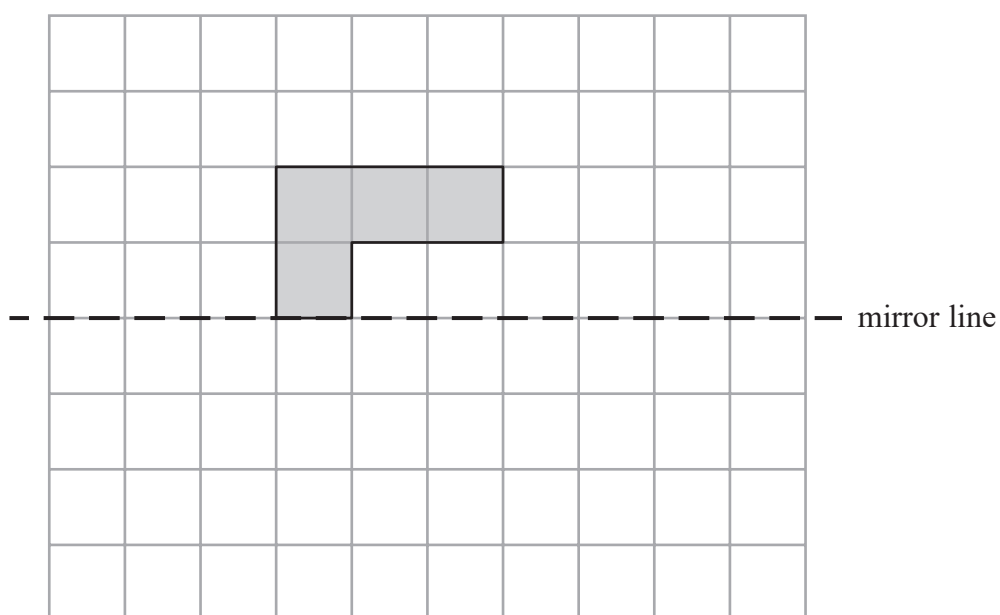
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10 On the grid, reflect the shaded shape in the mirror line.



(Total for Question 10 is 1 mark)

11 There are men and women at a meeting.

There are 28 women.

30% of the people at the meeting are men.

Work out the total number of people at the meeting.

(Total for Question 11 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 240 minutes in hours.

..... hours

(Total for Question 1 is 1 mark)

- 2** Write 0.38 as a percentage.

..... %

(Total for Question 2 is 1 mark)

- 3** Work out $10 \times (3 + 7)$

.....

(Total for Question 3 is 1 mark)

- 4** Write down a prime number that is between 30 and 40

.....

(Total for Question 4 is 1 mark)



- 5 Find the number that is exactly halfway between 9 and 21

.....
(Total for Question 5 is 1 mark)

- 6 Harry is planning a holiday for 3 people for 7 days.

Here are the costs for the holiday for **each person**.

Travel	£160
Hotel	£60 for each day
Spending money	£250

Work out the total cost of the holiday for 3 people for 7 days.

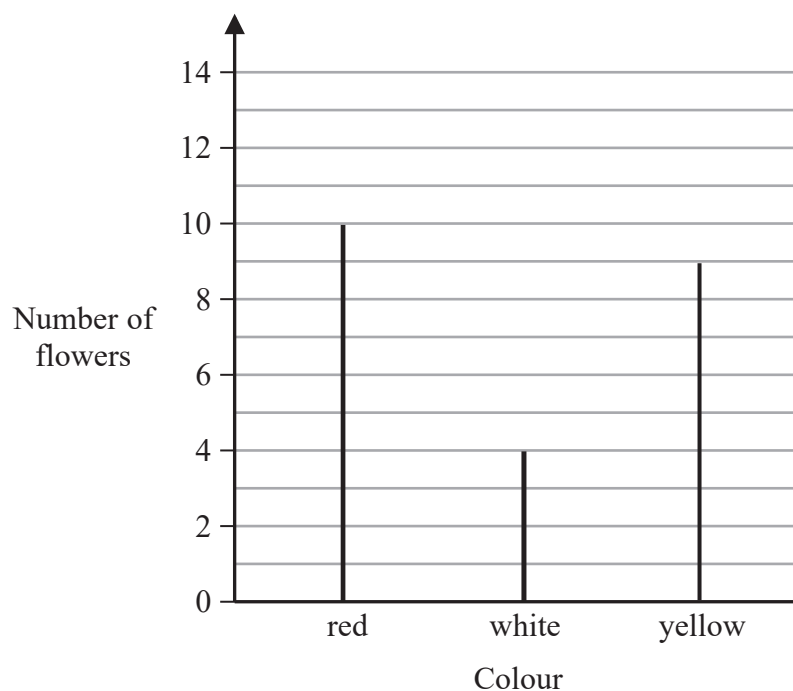
£.....

(Total for Question 6 is 4 marks)



- 7 In Adam's garden, the flowers are only red or white or yellow or blue.

The chart shows the number of red flowers, the number of white flowers and the number of yellow flowers.



The total number of flowers is 30

- (a) Work out the number of blue flowers.

.....
(2)

- (b) Write down the mode.

.....
(1)

(Total for Question 7 is 3 marks)



- 8 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{5} \quad \frac{3}{4} \quad \frac{1}{4} \quad \frac{7}{10} \quad \frac{1}{3}$$

.....

(Total for Question 8 is 2 marks)

- 9 Ruth left her home at 11 am and walked to the library.
She got to the library at 1:30 pm. Ruth
walked at a speed of 3 mph.

(a) Work out the distance Ruth walked.

..... miles
(2)

Ruth got to the library at 1:30 pm. She
stayed at the library for 35 minutes.
Then she walked home.

Ruth took $1\frac{1}{4}$ hours to walk home.

(b) At what time did Ruth get home?

.....
(2)

(Total for Question 9 is 4 marks)



10 (a) Solve $t + t + t = 18$

$$t = \dots\dots\dots (1)$$

(b) Solve $x - 3 = 9$

$$x = \dots\dots\dots (1)$$

(c) Solve $7w + 2 = 23$

$$w = \dots\dots\dots (2)$$

(Total for Question 10 is 4 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 420 minutes in hours.

..... hours

(Total for Question 1 is 1 mark)

- 2** Write 0.59 as a percentage.

..... %

(Total for Question 2 is 1 mark)

- 3** Work out $10 \times (5 + 4)$

.....

(Total for Question 3 is 1 mark)

- 4** Write down a prime number that is between 60 and 70

.....

(Total for Question 4 is 1 mark)

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- 5 Find the number that is exactly halfway between 83 and 151

.....
(Total for Question 5 is 1 mark)

- 6 Harry is planning a holiday for 5 people for 9 days.

Here are the costs for the holiday for **each person**.

Travel	£235
Hotel	£85 for each day
Spending money	£275

Work out the total cost of the holiday for 5 people for 9 days.

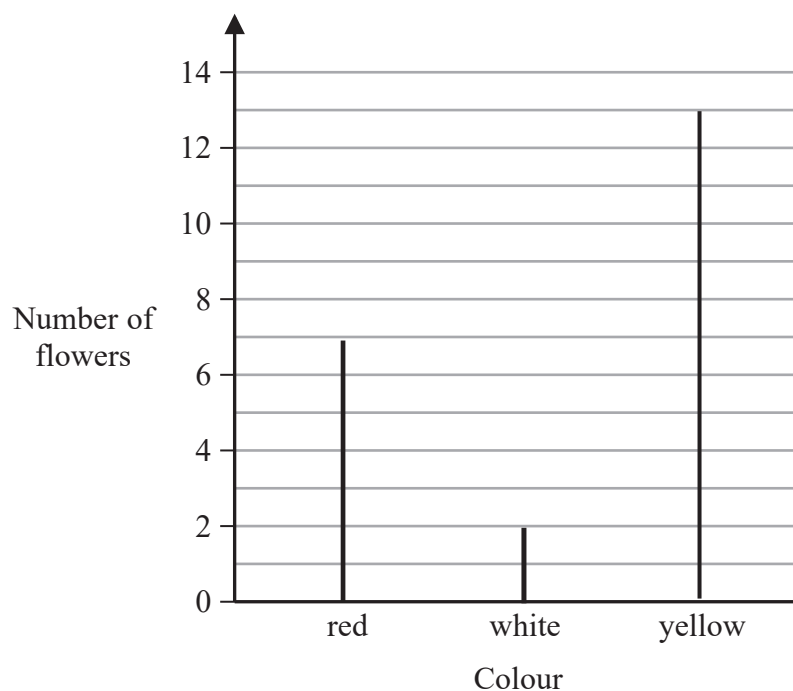
£.....

(Total for Question 6 is 4 marks)



- 7 In Adam's garden, the flowers are only red or white or yellow or blue.

The chart shows the number of red flowers, the number of white flowers and the number of yellow flowers.



The total number of flowers is 30

- (a) Work out the number of blue flowers.

.....
(2)

- (b) Write down the mode.

.....
(1)

(Total for Question 7 is 3 marks)



- 8 Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{3}{5} \quad \frac{3}{4} \quad \frac{1}{2} \quad \frac{9}{10} \quad \frac{1}{3} \quad \frac{17}{20}$$

.....

(Total for Question 8 is 2 marks)

- 9 Ruth left her home at 10 am and walked to the library.
She got to the library at 1:30 pm. Ruth
walked at a speed of 2 mph.

(a) Work out the distance Ruth walked.

..... miles
(2)

Ruth got to the library at 4:30 pm.
She stayed at the library for 45
minutes. Then she walked home.

Ruth took $1\frac{1}{4}$ hours to walk home.

(b) At what time did Ruth get home?

.....
(2)

(Total for Question 9 is 4 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Write 35% as a fraction.

(Total for Question 1 is 1 mark)

- 2 Work out $\frac{1}{4}$ of 28

(Total for Question 2 is 1 mark)

- 3 Write down two factors of 12

(Total for Question 3 is 1 mark)

- 4 Simplify $2m \times 3$

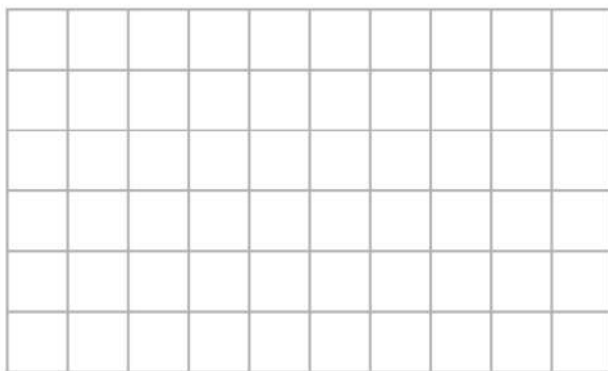
(Total for Question 4 is 1 mark)

- 5 Find $\sqrt{1.69}$

(Total for Question 5 is 1 mark)



6



On the grid, draw a quadrilateral with

no lines of symmetry

and rotational symmetry of order 2

(Total for Question 6 is 2 marks)

- 7 The table shows the total number of apples sold and the total number of oranges sold in a shop in each of three weeks.

	Week 1	Week 2	Week 3
Number of apples	86	75	92
Number of oranges	68	80	76

In total for the three weeks, more apples than oranges were sold.

How many more?

(Total for Question 7 is 3 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write 0.3 as a fraction.

.....
(Total for Question 1 is 1 mark)

- 2** Work out 3^2

.....
(Total for Question 2 is 1 mark)

- 3** Work out $20 \div (3 + 2)$

.....
(Total for Question 3 is 1 mark)

- 4** Write down a factor of 60 that is between 8 and 14

.....
(Total for Question 4 is 1 mark)



5 Simplify $3 \times w \times 5 \times t$

.....
(Total for Question 5 is 1 mark)

6 Fay is planning a trip to a theme park for 1 adult and 2 children.

These are the costs for the trip.

Total cost of petrol	£23
Tickets to theme park	£33 each adult £24.50 each child
Meals	£15 each adult £10 each child

Fay has £200 to spend.

She pays all the costs.

How much money does she have left?

£.....

(Total for Question 6 is 4 marks)



7 Here is a list of 8 letters.

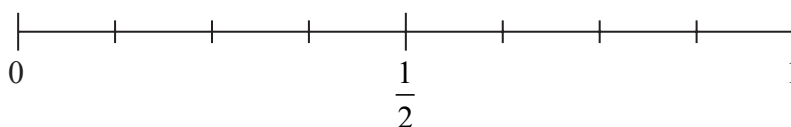
B C A A A A B A

(a) Write down the mode.

.....
(1)

One of the 8 letters is going to be picked at random.

(b) (i) On the probability scale, mark with a cross (×) the probability that this letter will be B.



(1)

(ii) Find the probability that this letter will be C.

.....
(1)

(Total for Question 7 is 3 marks)

8 (a) Solve $m - 3 = 4$

$m =$
(1)

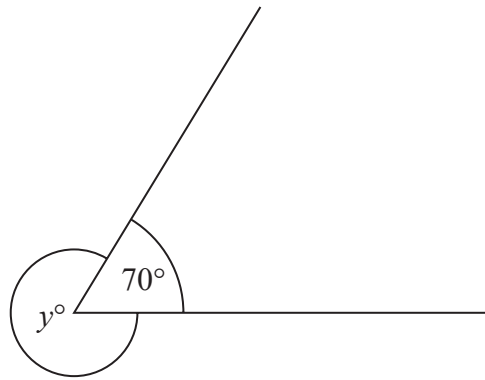
(b) Solve $3n + n = 24$

$n =$
(2)

(Total for Question 8 is 3 marks)



9



(a) Find the value of y .

$y = \dots\dots\dots$
(1)

(b) Give a reason for your answer.

(1)

(Total for Question 9 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write the following numbers in order of size.
Start with the smallest number.

-7 7 0 -2 -1

.....
(Total for Question 1 is 1 mark)

- 2** Write 37% as a fraction.

.....
(Total for Question 2 is 1 mark)

- 3** Write down the 7th odd number.

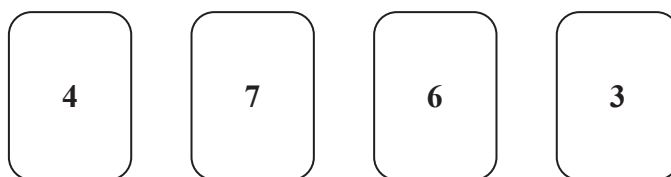
.....
(Total for Question 3 is 1 mark)

- 4** Change 53 centimetres to millimetres.

..... millimetres
(Total for Question 4 is 1 mark)



- 5 Here are four cards.
There is a number on each card.

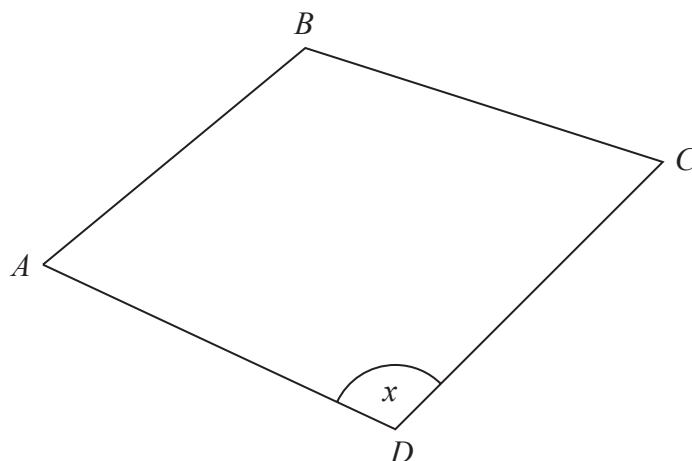


Write down the smallest 4-digit even number that can be made using each card only once.

.....

(Total for Question 5 is 1 mark)

- 6 Here is a quadrilateral $ABCD$.



- (a) Measure the length of the side AB .
Give your answer in centimetres.

..... centimetres
(1)

- (b) Measure the size of the angle marked x .

.....
(1)

(Total for Question 6 is 2 marks)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** Write the following numbers in order of size.
Start with the smallest number.

0.41 0.5 0.46 0.408

.....
(Total for Question 1 is 1 mark)

- 2** Write down the value of the 2 in the number 12 345

.....
(Total for Question 2 is 1 mark)

- 3** Write $\frac{4}{5}$ as a decimal.

.....
(Total for Question 3 is 1 mark)

- 4** Write 19.4949 correct to the nearest whole number.

.....
(Total for Question 4 is 1 mark)

- 5** Here is a list of numbers.

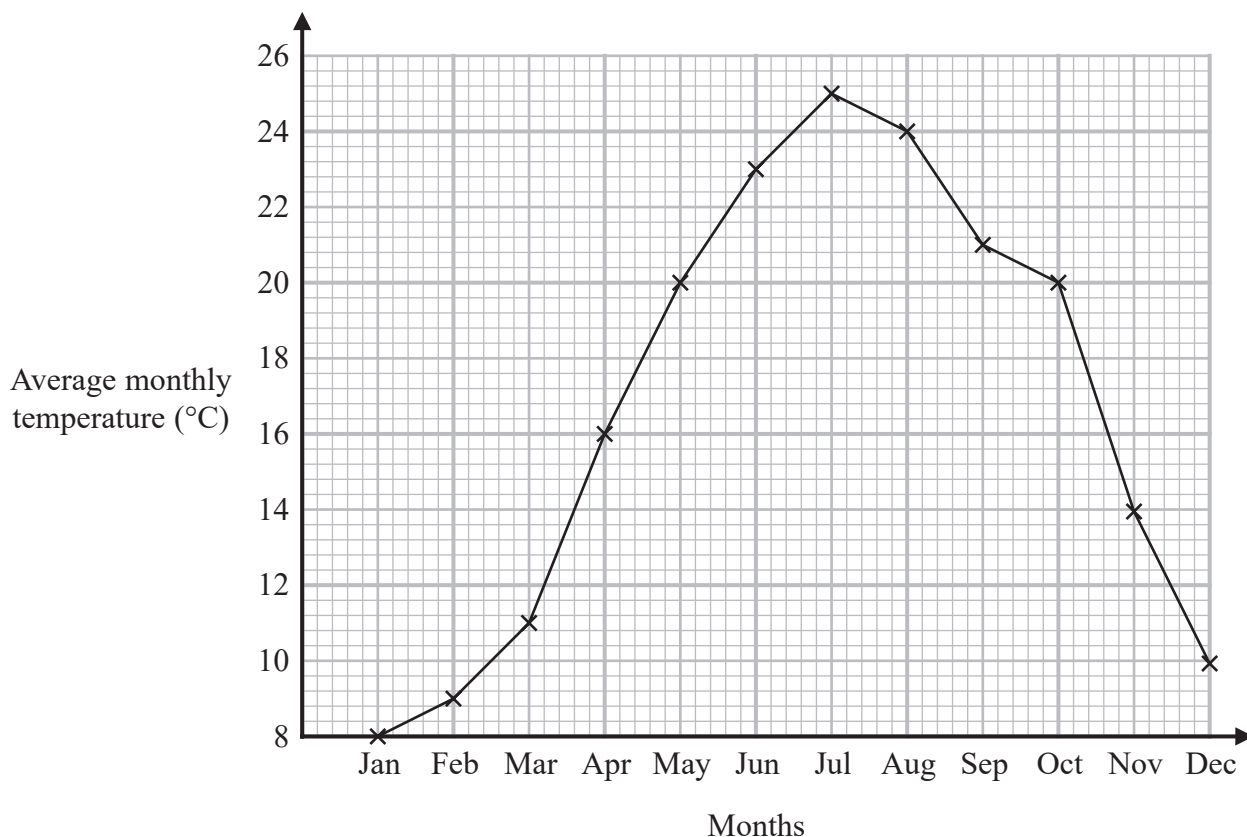
5 11 18 22 29

From the list, write down a multiple of 3

.....
(Total for Question 5 is 1 mark)



6 The graph shows information about the average monthly temperature, in $^{\circ}\text{C}$, in Amman.



(a) For how many months was the average monthly temperature greater than 16°C ?

.....
(1)

(b) Write down the two months that had the same average monthly temperature.

..... and
(1)

(Total for Question 6 is 2 marks)