WEEK 5 TASKS

Managing your time in the exam is an important skill. Each paper is 90 minutes in length, and you need to make sure that you are using all the allocated time. Look at the number of marks for guidance where 1 mark = 1 minute. The early one mark question may not take one whole minute, but this extra time can be used for tackling trickier questions and if you find you are really stuck on a question, move on but remember to come back to the question at the end.

Remember: It's not over until its over!

WEEK 5 TASK 1

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1 Find $\sqrt{1.69}$

2 Simplify $t \times t$

3 Write $\frac{4}{50}$ as a percentage

4 Change 35 cm to mm

5 Work out $10 \times (3 + 5)$

6 Write 6324 correct to the nearest thousand

7 Here are the first 4 terms of a sequence

2 9 16 23

Work out the 10th term of the sequence

8 Write down the prime number that is between 12 and 16

9 Here are four numbers:

–9 –2 2 9

Write one of these numbers on each line to make a correct calculation

..... + ... = –7

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

WEEK 5 TASK 2

Estimated completion time = 30 minutes.

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 number of books read by four people in one month.

Person	Number of books
Ximena	7
Martha	9
Kezia	1
Tabby	5

(*a*) Work out the median number of books.

.....

(2)

(*b*) Find the range.

.....

(1)

(Total for Question 1 is 3 mark)

***2** Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.
10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(*a*) Using this assumption, work out the amount of coffee Jonny needs.
Give your answer correct to the nearest gram.

..... g

(4)

Jonny's assumption is wrong.
72% of the people will drink coffee.

(*b*) How does this affect your answer to part (*a*)?

.....

.....

.....

(1)

(Total for Question 2 is 5 marks)

***3** Simplify $x^5 \times x^8$

.....

(Total for Question 3 is 1 mark)

---

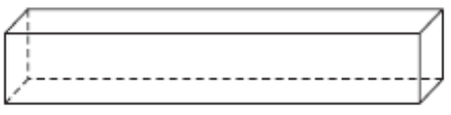
4 A quadrilateral has 4 right angles and 4 sides of equal length.

(*a*) Write down the mathematical name of this quadrilateral.

.....

(1)

The diagram shows a solid shape.



(*b*) Write down the mathematical name of this shape.

.....

(1)

(Total for Question 4 is 2 marks)

5 Solve $4(2x - 3) = 20$

$x =$ .....

(Total for Question 5 is 3 marks)

---

6 Blake works 32 hours a week in the UK.
She is paid £473.28 per week.

Blake applies for a job in Australia.
The rate of pay is 26.40 Australian dollars per hour.

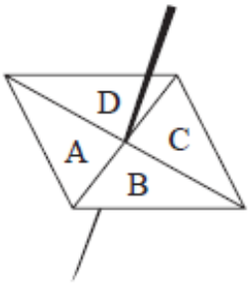
£1 = 1.796 Australian dollars

Blake thinks the rate of pay in Australia is greater than the rate of pay in the UK.

Is Blake correct?
You must show how you get your answer.

(Total for Question 6 is 3 marks)

***7** Here is a biased spinner.



The table shows the probabilities that when the spinner is spun it will land on A, on B, on C and on D.

Letter	A	B	C	D
Probability	0.4	0.21	0.32	0.07

Luka will spin the spinner 200 times.

Work out an estimate for the number of times the spinner will land on A.

.....

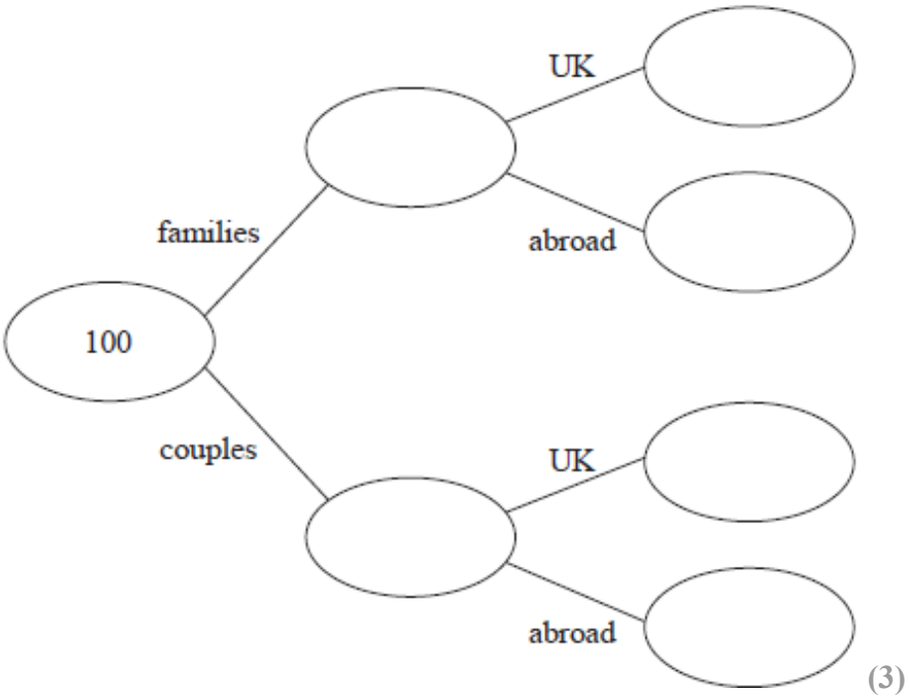
(Total for Question 7 is 2 marks)

8 A travel agent sold 100 holidays in April.
Each of these holidays was in the UK or was abroad.

64 of the 100 holidays were sold to families.
The rest of the holidays were sold to couples.

11 of the 18 holidays abroad were sold to couples.

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



(3)

One of the holidays sold to a family is chosen at random.

(*b*) Find the probability that this holiday was **not** abroad.

.....

(2)

(Total for Question 8 is 5 marks)

9 (*a*) Simplify $8h^3 + 14h^3 - 2h^3$

.....

(1)

(*b*) Simplify $(9y + 12y) \div 3$

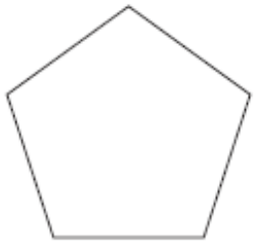
.....

(1)

(Total for Question 9 is 2 marks)

---

10 Here is a polygon.

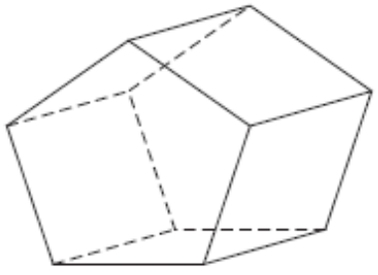


(*a*) Write down the mathematical name of this polygon.

.....

(1)

Here is a prism.



Each edge of the prism has a length of 7.5 cm.

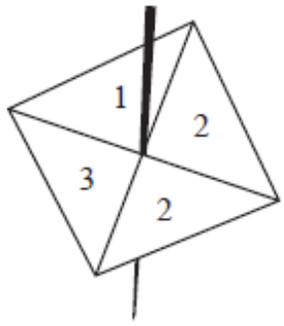
(*b*) Work out the total length of the edges of the prism.

..... cm

(2)

(Total for Question 10 is 3 marks)

11 Here is a 4-sided spinner.



Samina spins the spinner once.

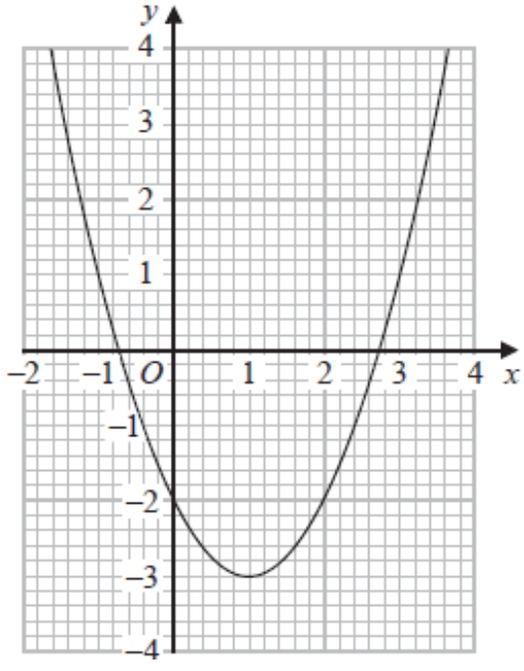
Choose the word that best describes the probability that the spinner lands on 2

impossible	unlikely	evens	likely	certain

.....

(Total for Question 11 is 1 mark)

***12** Here is the graph of $y = x^2 - 2x - 2$



Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 2$

(..... , ...)

(Total for Question 12 is 1 mark)

TOTAL FOR PAPER IS 31 MARKS

WEEK 5 TASK 3

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1 Write 0.75 as a fraction

2 Change 4 kilometres into metres

3 Write 478 to the nearest hundred

4 Find the value of 6^5

5 Here is a list of numbers:

3 4 9 18 27 30 36

From the numbers in the list, write down the cube number

6 Write the fraction $\frac{28}{70}$ in its simplest form

7 Write 4.58 correct to 1 decimal place

8 Write 40% as a decimal

9 Write down the value of the 3 in the number 62 837

10 Work out $\frac{1}{3}$ of 24

WEEK 5 TASK 4

Estimated completion time = 45 minutes.

Answer all questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (*a*) Simplify $\frac{15a}{3}$

.....

(1)

(*b*) Simplify $19 + 5b + 4c - 7b + c$

.....

(2)

(*c*) Factorise $8d - 6$

.....

(1)

(Total for Question 1 is 4 marks)

***2** (*a*) Write 156 as a product of its prime factors.

.....

(2)

(*b*) Find the highest common factor (HCF) of 156 and 130

.....

(2)

(Total for Question 2 is 4 marks)

***3** Work out $7\frac{3}{8} - 2\frac{1}{2}$

Give your answer as a mixed number.

.....

(Total for Question 3 is 3 marks)

---

4 Naomi has b bags of apples and c crates of apples.

There are 5 apples in each bag.
There are 28 apples in each crate.

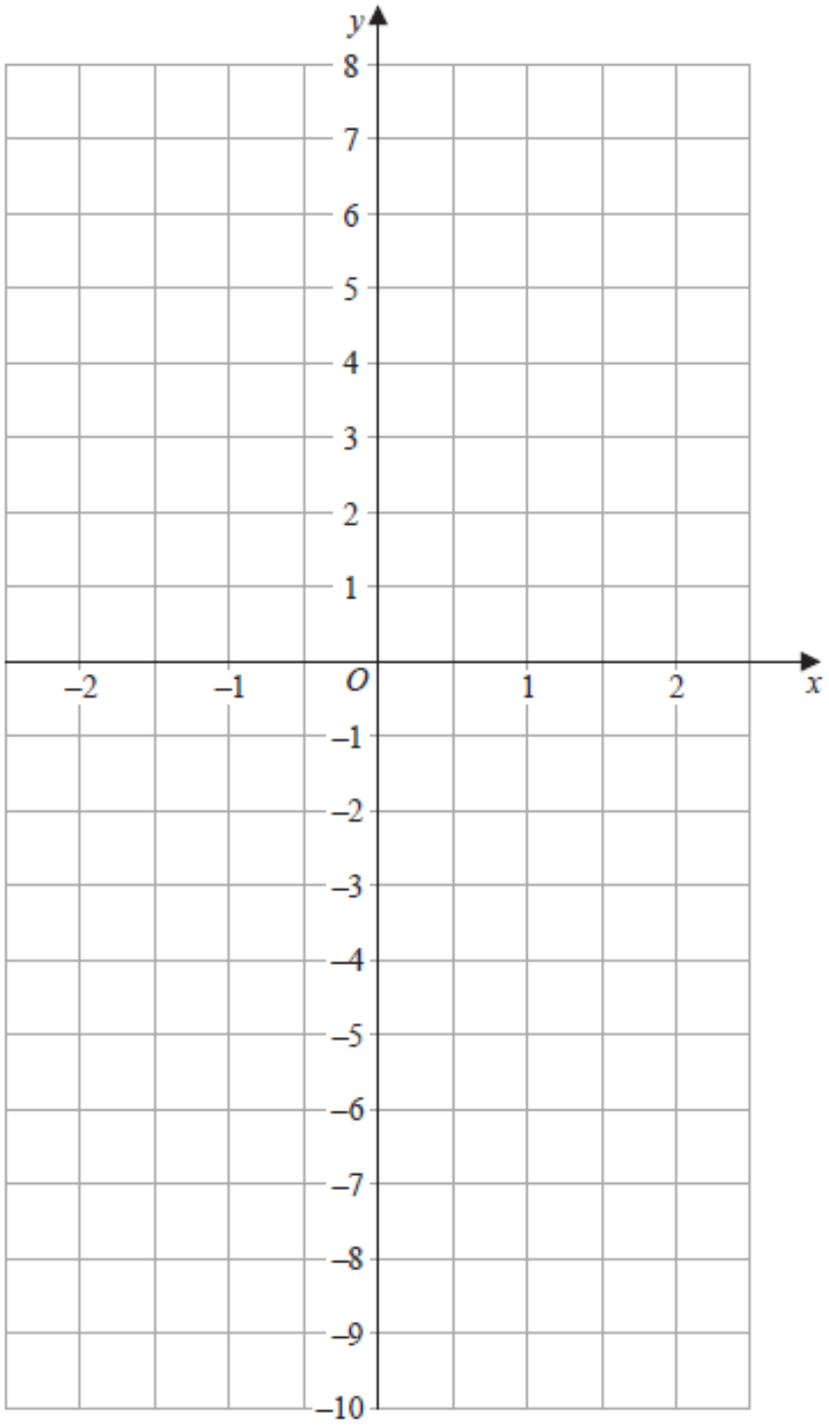
Naomi has a total of T apples.

Write a formula for T in terms of b and c.

.....

(Total for Question 4 is 3 marks)

5 On the grid, draw the graph of $y = 4x - 1$ for values of x from -2 to 2



(Total for Question 5 is 3 marks)

6 Here are the first five terms of an arithmetic sequence.

–5 3 11 19 27

Find an expression, in terms of n, for the nth term of this sequence.

.....

(Total for Question 6 is 2 marks)

---

7 Chloe is making scrunchies.

Chloe has a large number of hair bands.
Each hair band costs 8p.

She buys 100 g of wool for £3

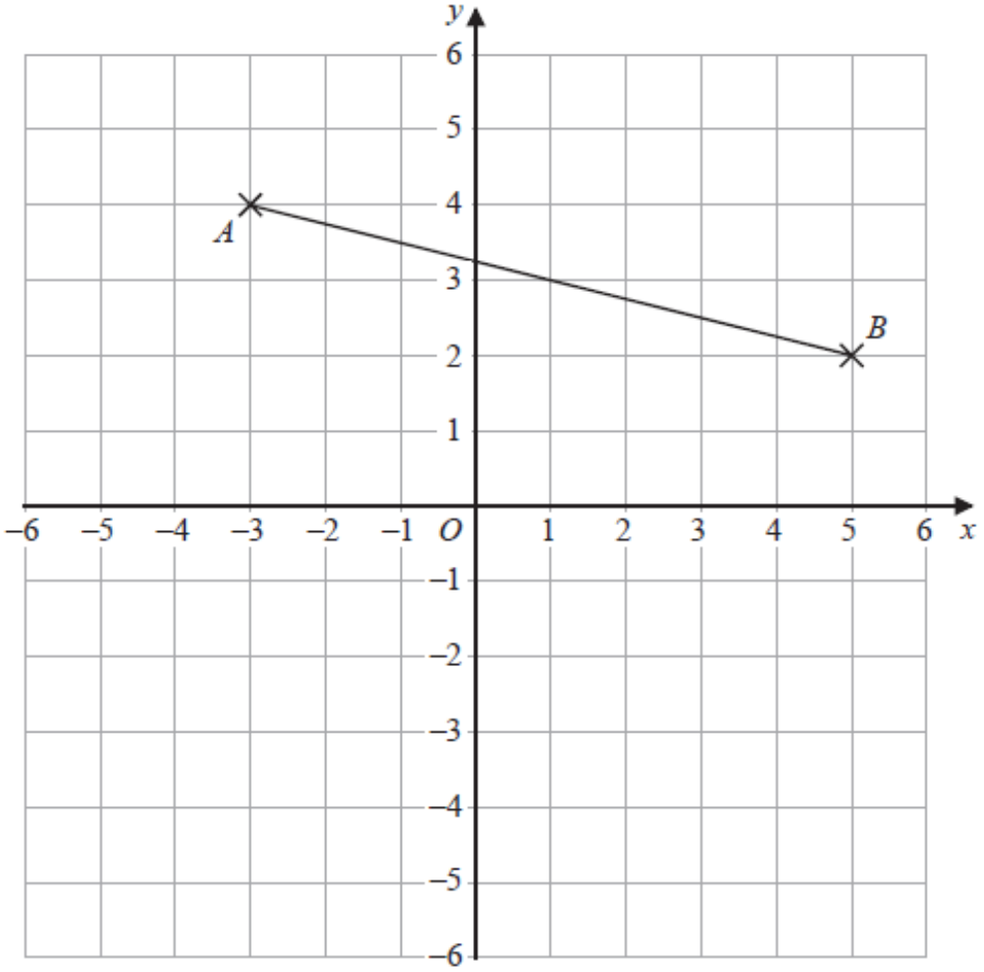
Chloe uses 1 hair band and 5 g of wool to make each scrunchy.
She makes as many scrunchies as she can.

Work out the total cost of each scrunchy that she makes.
Give your answer in pence.

.....p

(Total for Question 7 is 4 marks)

8



(*a*) Write down the coordinates of point *B*.

(..... , ...)

(1)

(*b*) Plot the point with coordinates (4, –2)
Label this point *C*.

(1)

(*c*) Write down the coordinates of the midpoint of *AB*.

(..... , ...)

(1)

(*d*) Draw the line with equation $y = -4$

(1)

(Total for Question 8 is 4 marks)

***9** The price of a holiday increases by 20%
This 20% increase adds £240 to the price of the holiday.

Work out the price of the holiday before the increase.

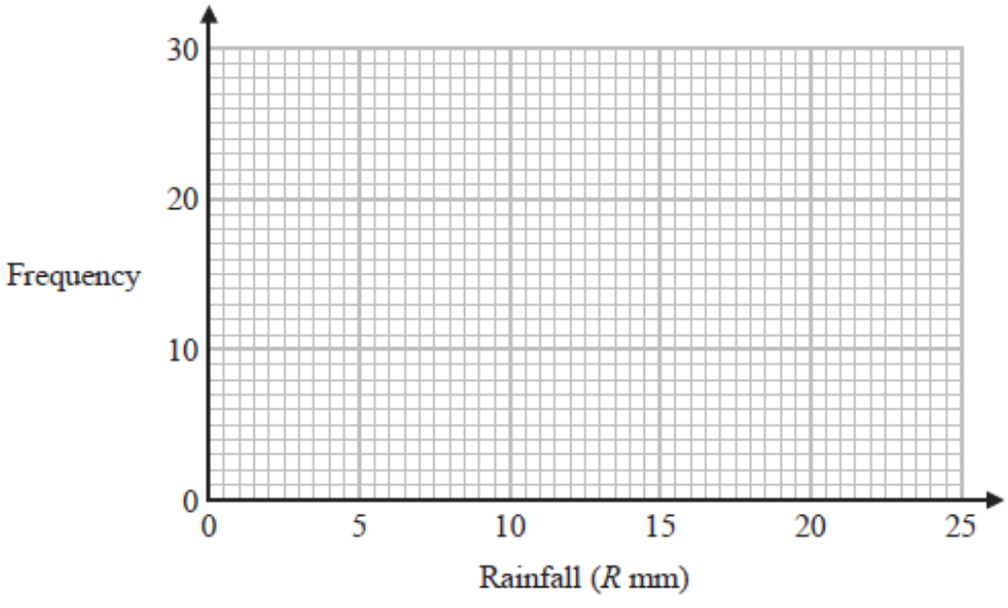
£.....

(Total for Question 9 is 2 marks)

***10** The table shows information about the daily rainfall in a town for 60 days.

Rainfall (R mm)	**Frequency**
$0 \leq R < 5$	8
$5 \leq R < 10$	24
$10 \leq R < 15$	13
$15 \leq R < 20$	11
$20 \leq R < 25$	4

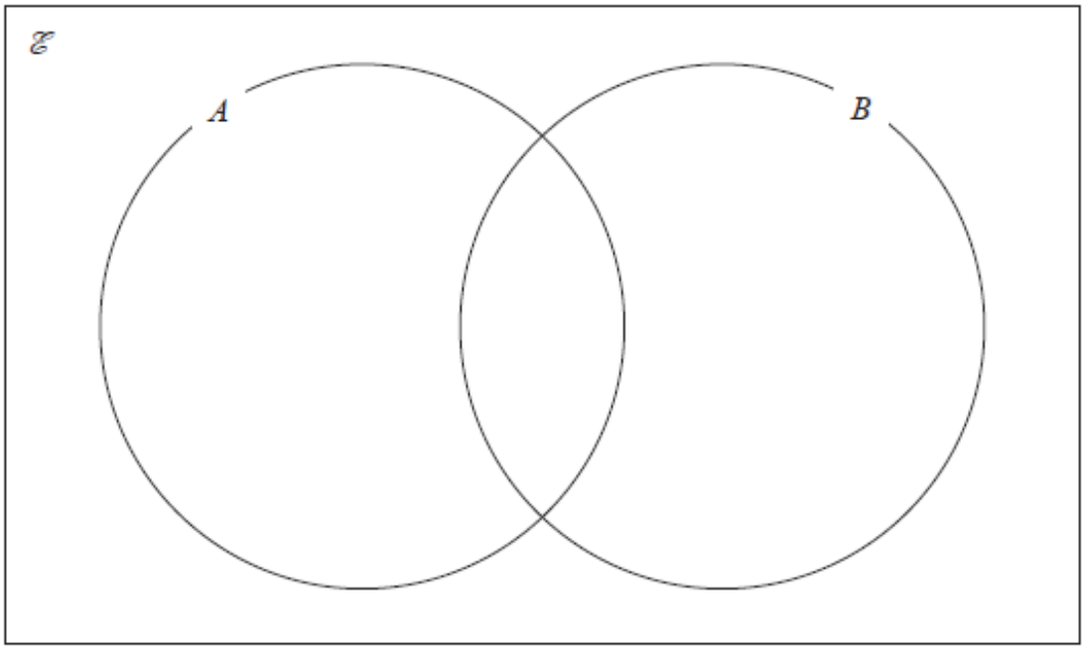
Draw a frequency polygon for this information.



(Total for Question 10 is 2 marks)

***11** $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
$A = \{\text{odd numbers}\}$
$B = \{\text{square numbers}\}$

(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set $\mathscr{E}$

(b) Find the probability that this number is in the set B'

.....

(2)
(Total for Question 11 is 5 marks)

---

12 A piece of glass has a mass of 27 g and a volume of 10 cm^3

Work out the density of the piece of glass.

..... g/cm^3

(Total for Question 12 is 2 marks)

***13** Write $\frac{2^5 \times 2^4}{2^3}$ in the form 2^n where n is an integer.

.....

(Total for Question 13 is 2 marks)

---

14 Work out an estimate for $\frac{5.7 \times 8.2}{0.26}$

.....

(Total for Question 14 is 3 marks)

***15** Work out $8.46 \div 0.15$

.....

(Total for Question 15 is 3 marks)

TOTAL FOR PAPER IS 46 MARKS

WEEK 5 TASK 5

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1 Write 29 381 correct to the nearest 100

2 Write 45% as a decimal

3 Write 0.1 as a percentage

4 Simplify $8a - 3a + 2a$

5 Here is a list of numbers

3 3 3 6 9 9

Write down the mode of the numbers

6 Work out -9 + 5

7 Write the number 8375 correct to the nearest thousand

8 Write a fraction in the box to make the calculation correct

$$1 - \frac{3}{10} = \square$$

9 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

☐☐ + ☐☐

10 Write $\frac{3}{10}$ as a percentage

Pearson

MARKSCHEMES

WEEK 5 TASK 1

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1

Find $\sqrt{1.69}$

1.3

2

Simplify $t \times t$

t^2

3

Write $\frac{4}{50}$ as a percentage

8%

4

Change 35 cm to mm

350 mm

5

Work out $10 \times (3 + 5)$

80

6

Write 6324 correct to the nearest thousand

6000

7

Here are the first 4 terms of a sequence

2 9 16 23

Work out the 10th term of the sequence

65

8

Write down the prime number that is between 12 and 16

13

9

Here are four numbers:

−9 −2 2 9

Write one of these numbers on each line to make a correct calculation

-9 + 2 = -7 or 2 + -9 = -7

10

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

90

WEEK 5 TASK 2

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 number of books read by four people in one month.

Person	Number of books
Ximena	7
Martha	9
Kezia	1
Tabby	5

(*a*) Work out the median number of books.

1 5 7 9 1 mark

6 Final mark

(2)

(*b*) Find the range.

9 - 1

8 1 mark

(1)

(Total for Question 1 is 3 mark)

***2** Jonny wants to know how much coffee he will need for 800 people at a meeting.

Each person who drinks coffee will drink 2 cups of coffee.
10.6 g of coffee is needed for each cup of coffee.

Jonny assumes 68% of the people will drink coffee.

(*a*) Using this assumption, work out the amount of coffee Jonny needs.
Give your answer correct to the nearest gram.

68% of 800 = 0·68 × 800 = 544 1 mark

2 cups each = 544 × 2 = 1088 cups 1 mark

1088 × 10·6g = 11532·8g 1 mark

nearest gram! → 11533 g

Final mark for answer in the range 11532.5 to 11533

(4)

Jonny's assumption is wrong.
72% of the people will drink coffee.

(*b*) How does this affect your answer to part (*a*)? 1 mark

more people drinking coffee will mean he will need more coffee

(1)

(Total for Question 2 is 5 marks)

***3** Simplify $x^5 \times x^8$

$x^{5+8} = x^{13}$

x^{13} 1 mark

(Total for Question 3 is 1 mark)

---

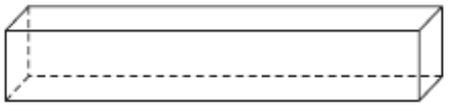
4 A quadrilateral has 4 right angles and 4 sides of equal length.

(*a*) Write down the mathematical name of this quadrilateral.

square 1 mark

(1)

The diagram shows a solid shape.



(*b*) Write down the mathematical name of this shape.

cuboid 1 mark

(1)

(Total for Question 4 is 2 marks)

5 Solve $4(2x - 3) = 20$

1 mark

$4 \times 2x$

4×-3

$8x - 12 = 20$

$+12 \quad +12$

$8x = 32$ 1 mark

$\div 8 \quad \div x$

$x = 4$

$x =$ 4 Final mark

(Total for Question 5 is 3 marks)

---

6 Blake works 32 hours a week in the UK.
She is paid £473.28 per week.

Blake applies for a job in Australia.
The rate of pay is 26.40 Australian dollars per hour.

£1 = 1.796 Australian dollars

Blake thinks the rate of pay in Australia is greater than the rate of pay in the UK.

Is Blake correct?
You must show how you get your answer.

UK.

£473.28 ÷ 32 1 mark

= £14.79 per hour

Aus

$ 26.40 per hour

26.40 ÷ 1.796 1 mark

= £14.699

14.79 > 14.699

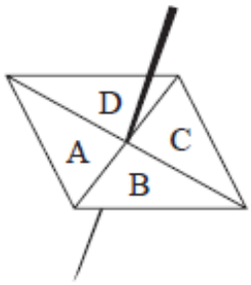
Blake is incorrect

Final mark

Must be supported by correct working

(Total for Question 6 is 3 marks)

*7 Here is a biased spinner.



The table shows the probabilities that when the spinner is spun it will land on A, on B, on C and on D.

Letter	A	B	C	D
Probability	0.4	0.21	0.32	0.07

Luka will spin the spinner 200 times.

Work out an estimate for the number of times the spinner will land on A.

200 × 0·4 1 mark

80 Final mark

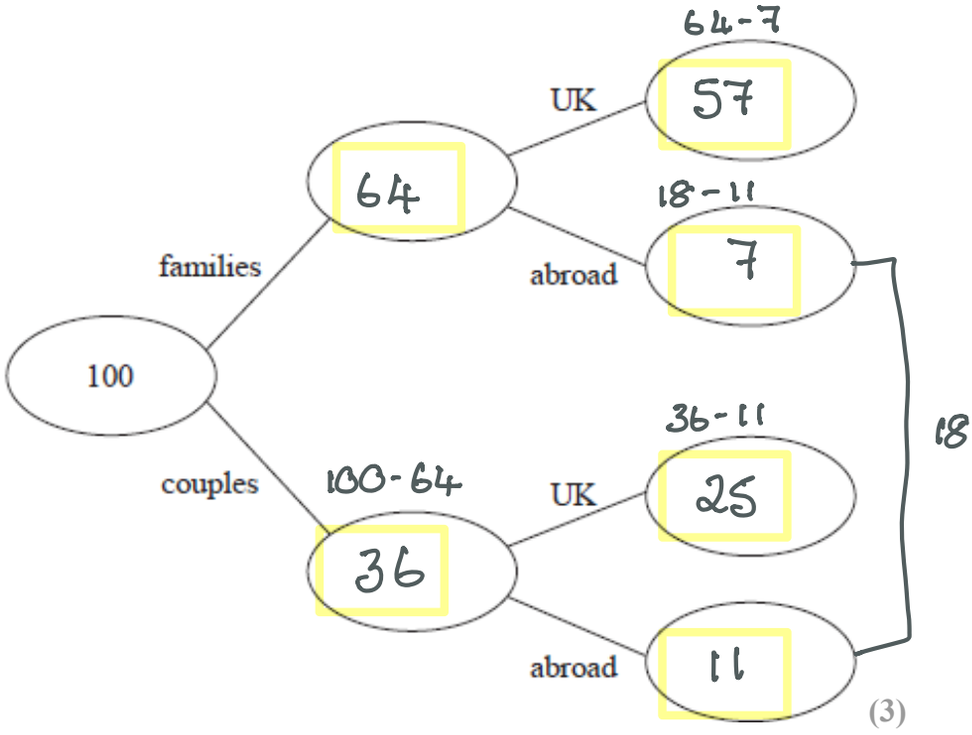
(Total for Question 7 is 2 marks)

8 A travel agent sold 100 holidays in April.
Each of these holidays was in the UK or was abroad.

64 of the 100 holidays were sold to families.
The rest of the holidays were sold to couples.

11 of the 18 holidays abroad were sold to couples.

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



(3)

3 marks for all correct values

2 marks for at least four correct values

1 mark for at least one correct value

One of the holidays sold to a family is chosen at random.

(*b*) Find the probability that this holiday was **not** abroad.

$\frac{\quad}{64}$

1 mark for a fraction with a denominator of 64

$\frac{57}{64}$ Final mark

.....

(2)

(Total for Question 8 is 5 marks)

9 (*a*) Simplify $8h^3 + 14h^3 - 2h^3$

$20h^3$ 1 mark

.....

(1)

(*b*) Simplify $(9y + 12y) \div 3$

$\frac{21y}{3}$

$7y$ 1 mark

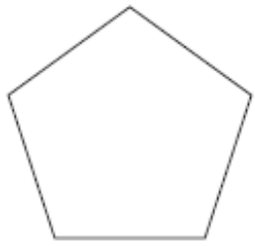
.....

(1)

(Total for Question 9 is 2 marks)

---

10 Here is a polygon.



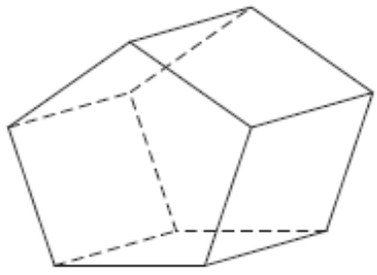
(*a*) Write down the mathematical name of this polygon.

pentagon 1 mark

.....

(1)

Here is a prism.



Each edge of the prism has a length of 7.5 cm.

(*b*) Work out the total length of the edges of the prism.

15edges

15×7.5 1 mark

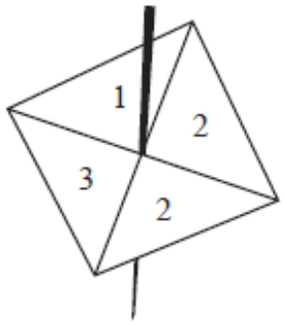
112.5 Final mark

..... cm

(2)

(Total for Question 10 is 3 marks)

11 Here is a 4-sided spinner.



Samina spins the spinner once.

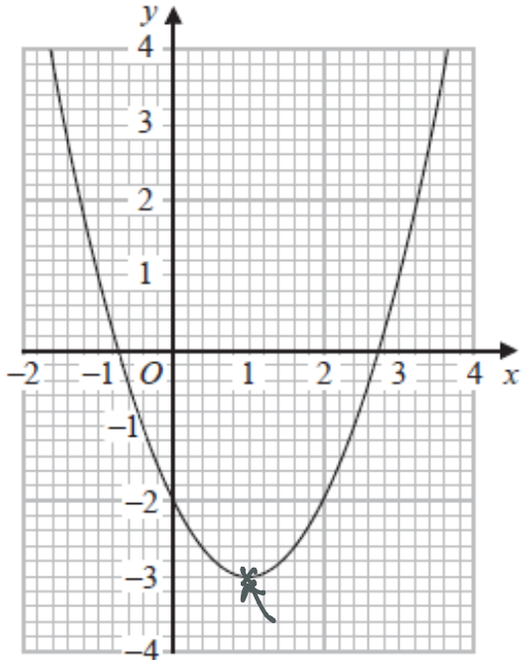
Choose the word that best describes the probability that the spinner lands on 2

impossible	unlikely	evens	likely	certain

evens 1 mark

(Total for Question 11 is 1 mark)

***12** Here is the graph of $y = x^2 - 2x - 2$



Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 2$

1 mark

(1 , -3)

(Total for Question 12 is 1 mark)

TOTAL FOR PAPER IS 31 MARKS

WEEK 5 TASK 3

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1

Write 0.75 as a fraction

$\frac{75}{100}$

or equivalent

2

Change 4 kilometres into metres

4000 metres

3

Write 478 to the nearest hundred

500

4

Find the value of 6^5

7776

5

Here is a list of numbers:

3 4 9 18 27 30 36

From the numbers in the list, write down the cube number

27

6

Write the fraction $\frac{28}{70}$ in its simplest form

$\frac{2}{5}$

7

Write 4.58 correct to 1 decimal place

4.6

8

Write 40% as a decimal

0.4

9

Write down the value of the 3 in the number 62 837

30

10

Work out $\frac{1}{3}$ of 24

8

WEEK 5 TASK 4

Answer all questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (*a*) Simplify $\frac{15a}{3}$

$3a$ 1 mark

(1)

(*b*) Simplify $19 + 5b + 4c - 7b + c$

$19 + 5b - 7b + 4c + c$

$19 - 2b + 5c$ Final mark

1 mark for either of these

(2)

(*c*) Factorise $8d - 6$

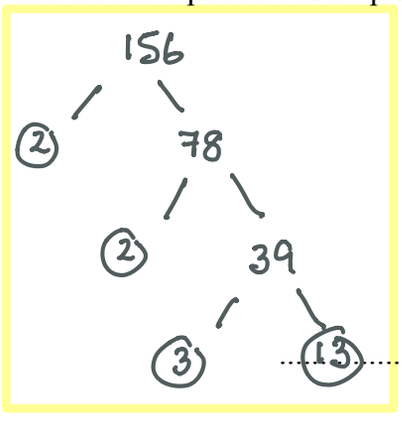
$4 \times 2 \quad 6 \times 2$

$2(4d - 3)$ 1 mark

(1)

(Total for Question 1 is 4 marks)

***2** (*a*) Write 156 as a product of its prime factors.



1 mark

Final mark

$2 \times 2 \times 3 \times 13$ or $2^2 \times 3 \times 13$

(2)

(*b*) Find the highest common factor (HCF) of 156 and 130

$130 = 13 \times 10$

$= 13 \times 2 \times 5$

HCF = 2×13

$130 = 2 \times 5 \times 13$

$156 = 2 \times 2 \times 3 \times 13$

1 mark

26 Final mark

(2)

(Total for Question 2 is 4 marks)

***3** Work out $7\frac{3}{8} - 2\frac{1}{2}$

Give your answer as a mixed number.

$7 \times 8 = 56$ $56 + 3 = 59$ $2 \times 2 = 4$ $4 + 1 = 5$

$\frac{59}{8} - \frac{5}{2}$ 1 mark

$\times 4$

1 mark $\frac{59}{8} - \frac{20}{8} = \frac{39}{8}$

8, 16, 24, 32

$\frac{39}{8} = 4\frac{7}{8}$

$4\frac{7}{8}$ Final mark

.....

(Total for Question 3 is 3 marks)

---

4 Naomi has b bags of apples and c crates of apples.

There are 5 apples in each bag.
There are 28 apples in each crate.

Naomi has a total of T apples.

Write a formula for T in terms of b and c.

Bag
5 apples
b

Crate
28 apples
c

$5b$ 1 mark

$28c$ 1 mark

Final mark

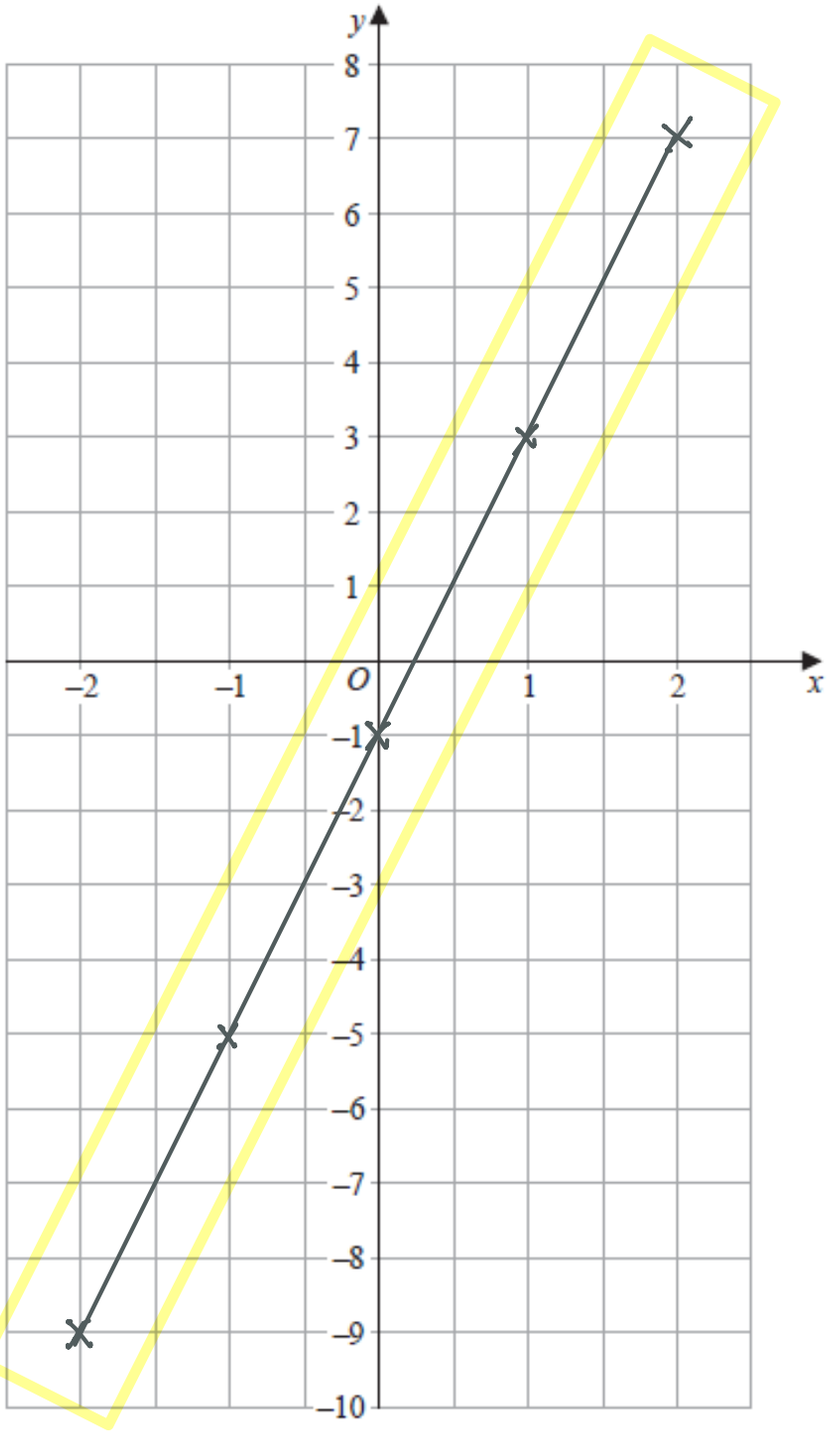
$T = 5b + 28c$

.....

(Total for Question 4 is 3 marks)

5 On the grid, draw the graph of $y = 4x - 1$ for values of x from –2 to 2

x	-2	-1	0	1	2
y	-9	-5	-1	3	7



3 marks for fully correct graph

2 marks for all points plotted but not joined

1 mark for at least two correct points plotted or stated

(Total for Question 5 is 3 marks)

6 Here are the first five terms of an arithmetic sequence.

–5	3	11	19	27
	8	8	8	8

Find an expression, in terms of n, for the nth term of this sequence.

$8n$	8	16	24	32	40
	8	8	8	8	8

$8n - 13$ 2 marks

(Total for Question 6 is 2 marks)

---

7 Chloe is making scrunchies.

Chloe has a large number of hair bands.
Each hair band costs 8p.

She buys 100 g of wool for £3

Chloe uses 1 hair band and 5 g of wool to make each scrunchy.
She makes as many scrunchies as she can.

Work out the total cost of each scrunchy that she makes.
Give your answer in pence.

1 mark

100 ÷ 5 = 20

100g wool = £3 ÷ 20 = 15p

5g ÷ 20

1 mark

300 ÷ 20 = 15

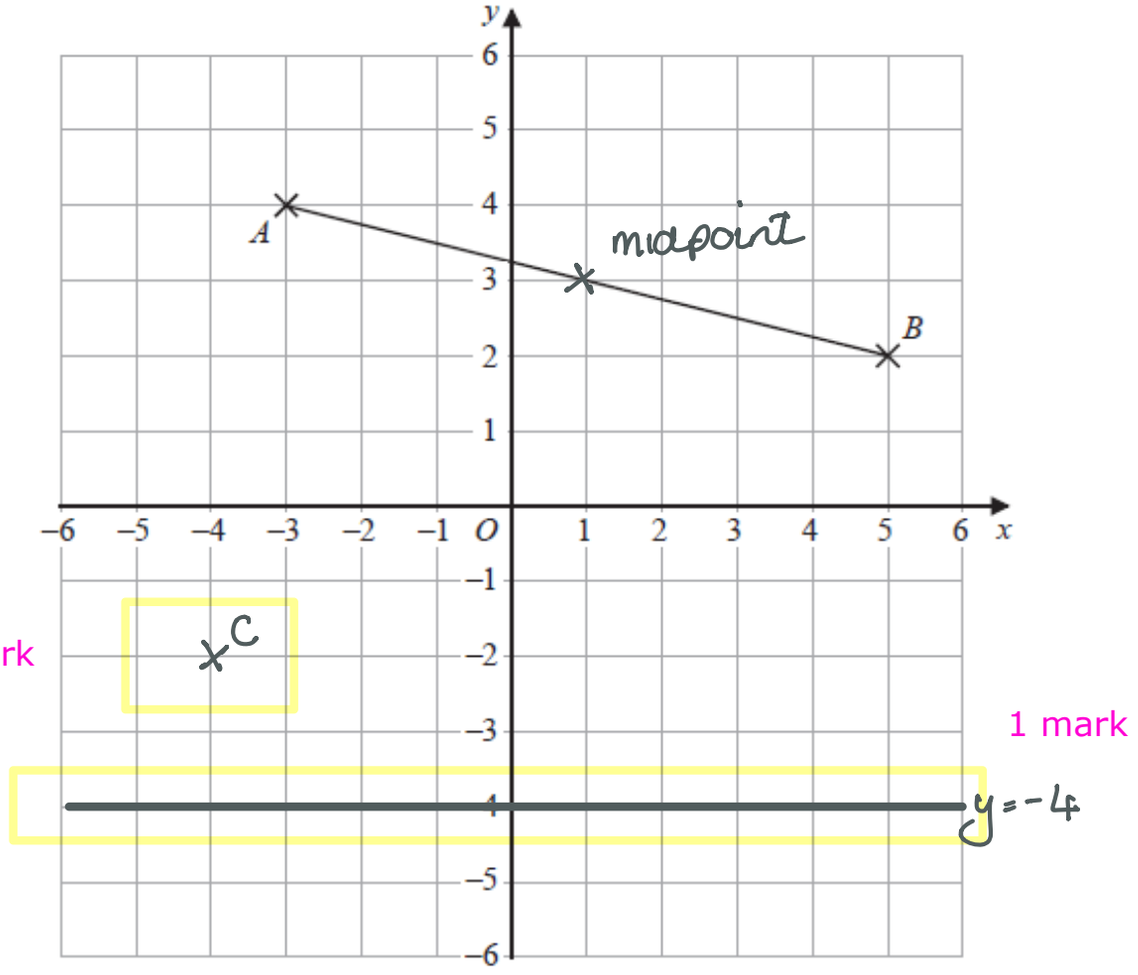
Total cost = 8p + 15p 1 mark

Final mark

23 p

(Total for Question 7 is 4 marks)

8



1 mark

1 mark

(*a*) Write down the coordinates of point *B*.

1 mark

(5 , 2)

(1)

(*b*) Plot the point with coordinates (4, –2)
Label this point *C*.

see graph

(1)

(*c*) Write down the coordinates of the midpoint of *AB*.

1 mark

(1 , 3)

(1)

(*d*) Draw the line with equation $y = -4$

see graph

(1)

(Total for Question 8 is 4 marks)

***9** The price of a holiday increases by 20%
This 20% increase adds £240 to the price of the holiday.

Work out the price of the holiday before the increase.

100% | 20%
£240

20% = £240
×5 × 5
100% = £1200

1 mark

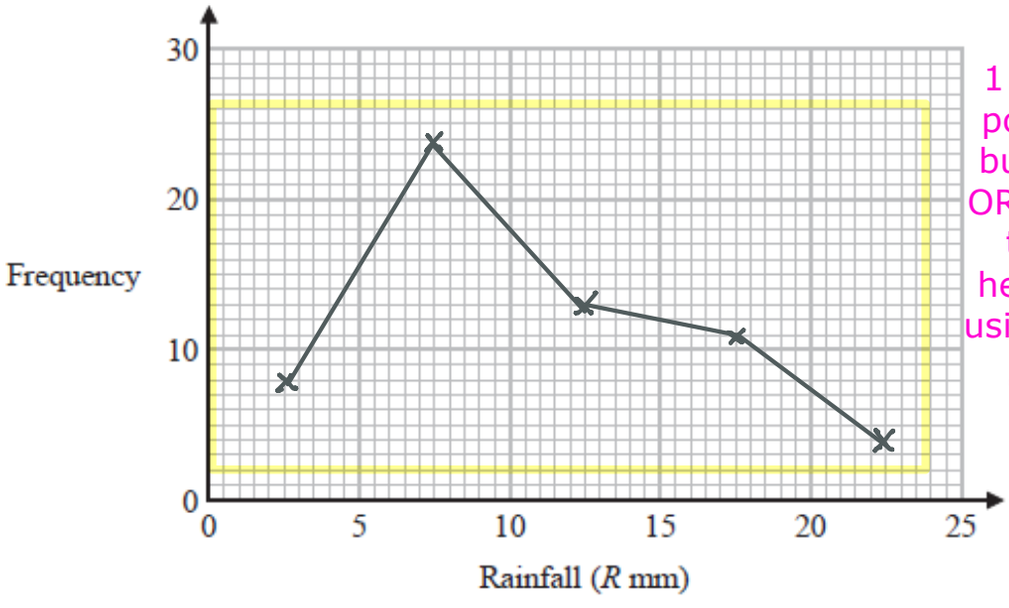
£ 1200 Final mark

(Total for Question 9 is 2 marks)

***10** The table shows information about the daily rainfall in a town for 60 days.

Rainfall (R mm)	Frequency
$0 \leq R < 5$	8
$5 \leq R < 10$	24
$10 \leq R < 15$	13
$15 \leq R < 20$	11
$20 \leq R < 25$	4

Draw a frequency polygon for this information.



2 marks for fully correct frequency polygon

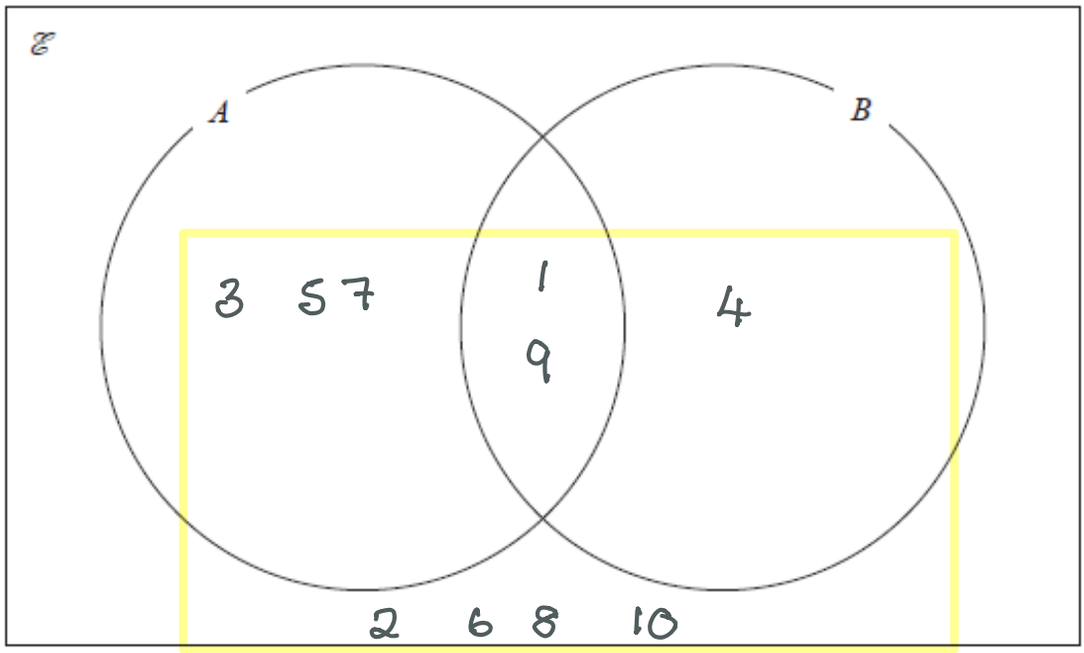
1 mark for all points plotted but not joined OR all points at the correct height but not using midpoints and joined

(Total for Question 10 is 2 marks)

***11** $\mathscr{E}$ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
A = {odd numbers}
B = {square numbers}

1 3 5 7 9
1 4 9

(a) Complete the Venn diagram for this information.



3 marks for fully correct Venn

2 marks for two or three correct regions

1 mark for one correct region

(3)

A number is chosen at random from the universal set $\mathscr{E}$

(b) Find the probability that this number is in the set B'

$\frac{\quad}{10}$ 1 mark for denominator of 10

$\frac{7}{10}$ Final mark

.....

(2)

(Total for Question 11 is 5 marks)

---

12 A piece of glass has a mass of 27 g and a volume of 10 cm^3

Work out the density of the piece of glass.

1 mark

Density = $\frac{\text{Mass}}{\text{Volume}}$ $D = \frac{27}{10}$ 27 ÷ 10

2·7 Final mark

..... g/cm^3

(Total for Question 12 is 2 marks)

***13** Write $\frac{2^5 \times 2^4}{2^3}$ in the form 2^n where n is an integer.

$\frac{2^{5+4}}{2^3} = \boxed{\frac{2^9}{2^3}}$ 1 mark

$= 2^{9-3} = 2^6$

$\boxed{2^6}$ Final mark

.....

(Total for Question 13 is 2 marks)

---

14 Work out an estimate for $\frac{5.7 \times 8.2}{0.26}$

0.3 could be used too so a range is accepted of 160 to 200

$5.7 \rightarrow 6$

$8.2 \rightarrow 8$

$0.26 \rightarrow 0.25$

1 mark for one of these

$\frac{6 \times 8}{0.25} = \frac{48}{0.25}$

$48 \div \frac{1}{4} = 48 \times 4$

1 mark

$\boxed{192}$ Final mark

.....

(Total for Question 14 is 3 marks)

***15** Work out 8.46 ÷ 0.15

$\frac{8.46 \times 100}{0.15 \times 100} = \frac{846}{15}$

$\boxed{846 \div 15}$ 1 mark

$\boxed{056.4}$ 1 mark for digits 564

15 | 8 8 4 9 6 . 6 0 0

15
30
45
60
75
90
105
120

$\boxed{56.4}$ Final mark

.....

(Total for Question 15 is 3 marks)

TOTAL FOR PAPER IS 46 MARKS

WEEK 5 TASK 5

One Marker Starters

Includes Summer 2017 – Summer 2024 Exam Papers

(Unless otherwise stated)

Pearson

1

Write 29 381 correct to the nearest 100

29 400

2

Write 45% as a decimal

0.45

3

Write 0.1 as a percentage

10%

4

Simplify $8a - 3a + 2a$

$7a$

5

Here is a list of numbers

3 3 3 6 9 9

Write down the mode of the numbers

3

6

Work out -9 + 5

- 4

7

Write the number 8375 correct to the nearest thousand

8000

8

Write a fraction in the box to make the calculation correct

$1 - \frac{3}{10} = \boxed{\frac{7}{10}}$

9

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

1 8 + 2 6 or 1 6 + 2 8

10

Write $\frac{3}{10}$ as a percentage

30%