



Write your name here

Surname

Other names

Scholarship Paper 2024

Subject: Mathematics Paper 1

Time: 1 Hour

You must have:

Pen
Pencil

Total Marks
65

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name.
- Answer the questions in the answer sheets provided.
 - *there may be more space than you need.*

Information

- The total mark for this paper is 65
- 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.
- Write your answers neatly and in good English.
- Try to answer every question.
- Check your answers if you have time at the end.

Questions

Q1.

Work out $\frac{1}{3} + \frac{5}{9}$

.....

(Total for question = 2 marks)

Q2.

There are 120 people at a party.

$\frac{1}{3}$ of the people leave the party.

Work out the number of people still at the party.

.....

(Total for question = 3 marks)

Q3.

David drives to the supermarket on his way home from work.

The table shows some information about his journey.

	Time
Leaves work	17 30
Gets to supermarket	17 45
Leaves supermarket	18 10

(a) How many minutes is David at the supermarket?

..... minutes

(1)

David leaves the supermarket at 1810
 He drives 20 miles to his home.
 The speed limit for the journey is 30 mph.
 David drives within the speed limit.

(b) Can David get home before 1900?

Give reasons for your answer.

(3)

(Total for question = 4 marks)

Q4.

The table shows information about the numbers of Year 10 students absent from Ellen's school last week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Number of students	12	6	7	10	13

(a) Work out the mean number of Year 10 students absent each day.

.....
(2)

Ellen's school has a total of 240 Year 10 students.

(b) What percentage of Year 10 students were absent on Monday?

..... %
(2)

(Total for question = 4 marks)

Q5.

Harry invests £5000 for 3 years.
He gets simple interest of 4% per year.
Work out the total interest Harry gets.

£.....

(Total for question = 3 marks)

Q6.

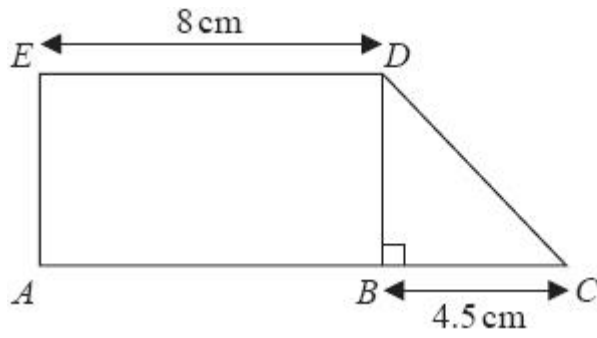


Diagram **NOT**
accurately drawn

ABDE is a rectangle.
ED is 8cm.

BDC is a right-angled triangle.
BC is 4.5cm.

ABC is a straight line.

The area of the rectangle *ABDE* is 40cm^2 .
Work out the area of the triangle *BDC*.

..... cm^2

(Total for question = 3 marks)

Q7.

At 5am the temperature was -5°C .
By midday, the temperature had risen by 7°C .

(a) Work out the temperature at midday.

..... $^{\circ}\text{C}$
(1)

At 5pm the temperature was 9°C .

(b) Work out the difference between the temperature at 5am and the temperature at 5pm.

..... $^{\circ}\text{C}$
(1)

(Total for question = 2 marks)

Q8.

Here is a clock in a school.



(a) (i) School starts 15 minutes earlier than the time shown on the clock.

What time does school start?

.....

(ii) The first lesson ends 45 minutes after the time shown on the clock.

What time does the first lesson end?

.....
(2)

(b) School finishes at 3.20 pm.

Write 3.20 pm using the 24-hour clock.

.....
(1)

(Total for Question is 3 marks)

Q9.

Make h the subject of the formula $G = 3h - 5$

.....
(Total for question = 2 marks)

Q10.

Kerry has two fair 6-sided dice, A and B.

Kerry is going to roll both dice.

(a) Complete the sample space diagram to show all the possible outcomes.

		Dice B					
		1	2	3	4	5	6
Dice A	1	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)
	2	(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)
	3	(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)
	4	(4, 1)	(4, 2)	(4, 3)
	5	(5, 1)	(5, 2)	(5, 3)
	6	(6, 1)	(6, 2)	(6, 3)

(1)

(b) Write down the probability that Kerry will get a 1 on dice A and a 1 on dice B.

.....
(1)

Kerry rolls dice A and dice B.

*(c) Compare the probability that Kerry will get a total of 6 with the probability that she will get a total of 7

.....
.....
(1)

(Total for question = 3 marks)

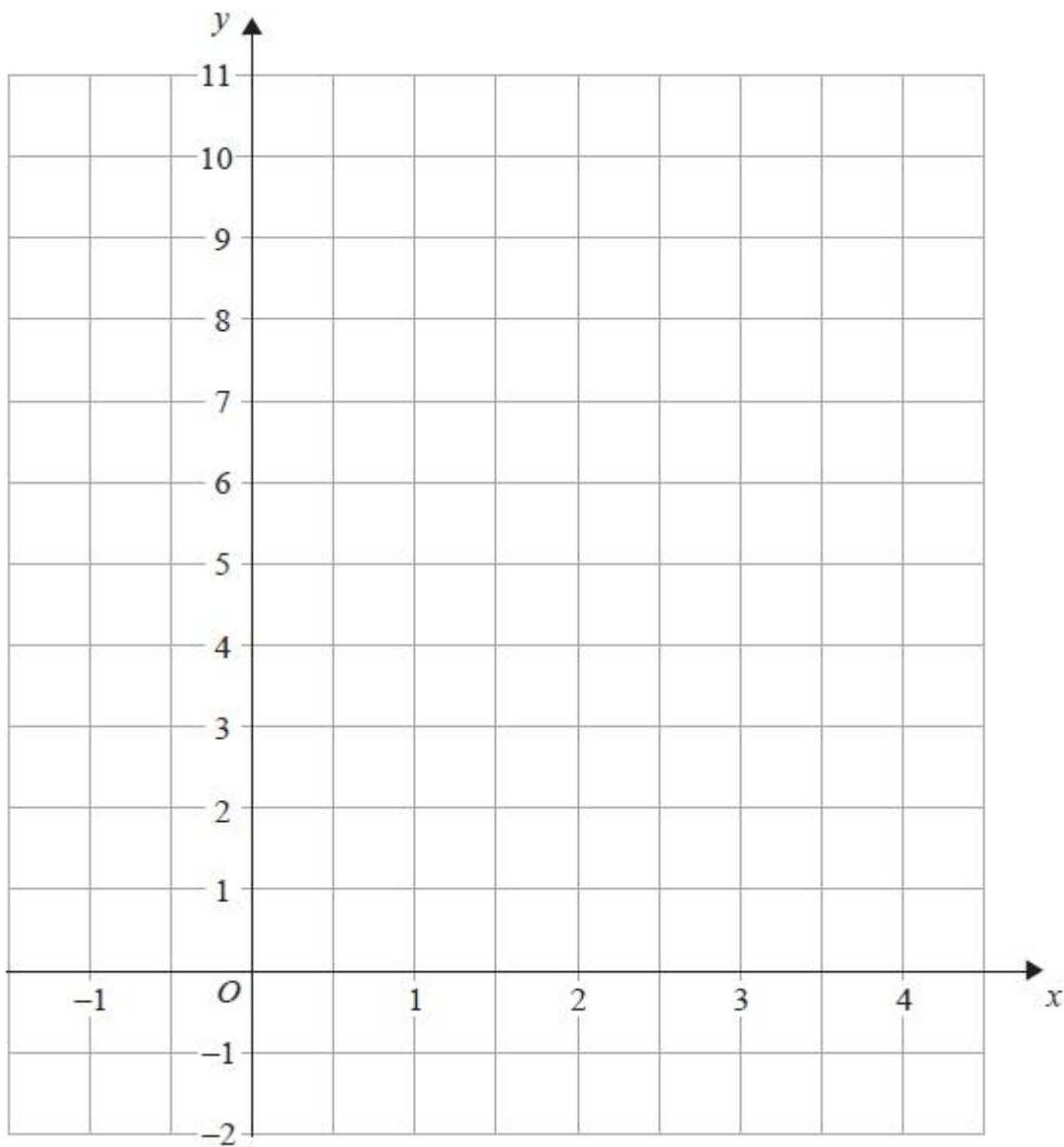
Q11.

(a) Complete the table of values for $y = 8 - 2x$

x	-1	0	1	2	3	4
y			6			0

(2)

(b) On the grid, draw the graph of $y = 8 - 2x$ for values of x from -1 to 4



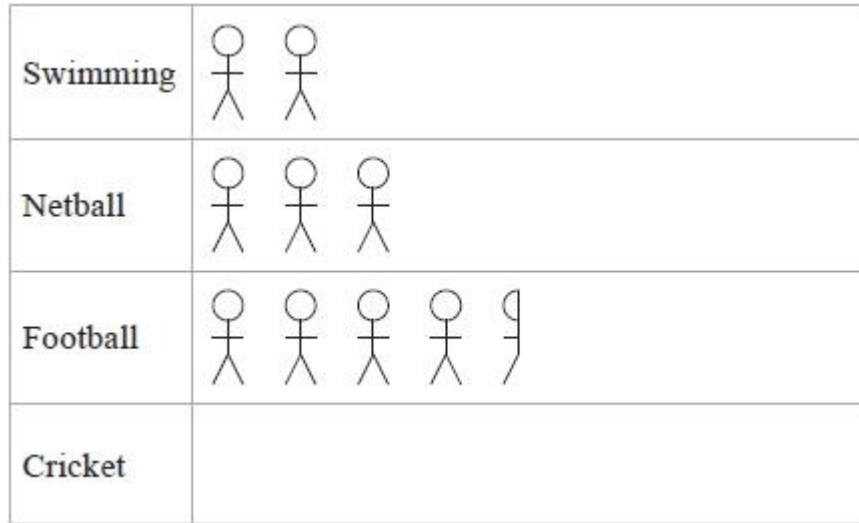
(2)

(Total for question = 4 marks)

Q12.

Heidi asks all the children in her class to tell her the sport they like best.

The pictogram shows how many children like swimming best, like netball best and like football best.



8 children like cricket best.

(a) Use this information to complete the pictogram.

(1)

(b) Work out the total number of children in Heidi's class.

.....

(2)

(Total for question = 3 marks)

Q13.

There are 57 musicians in an orchestra.

Each musician plays a brass instrument or a woodwind instrument or a string instrument.

The incomplete two-way table gives information about the musicians.

	Brass	Woodwind	String	Total
Female	4			
Male		5		27
Total		20	21	57

(a) Complete the table.

(3)

(b) Write down the number of male musicians who play a woodwind instrument.

.....
(1)

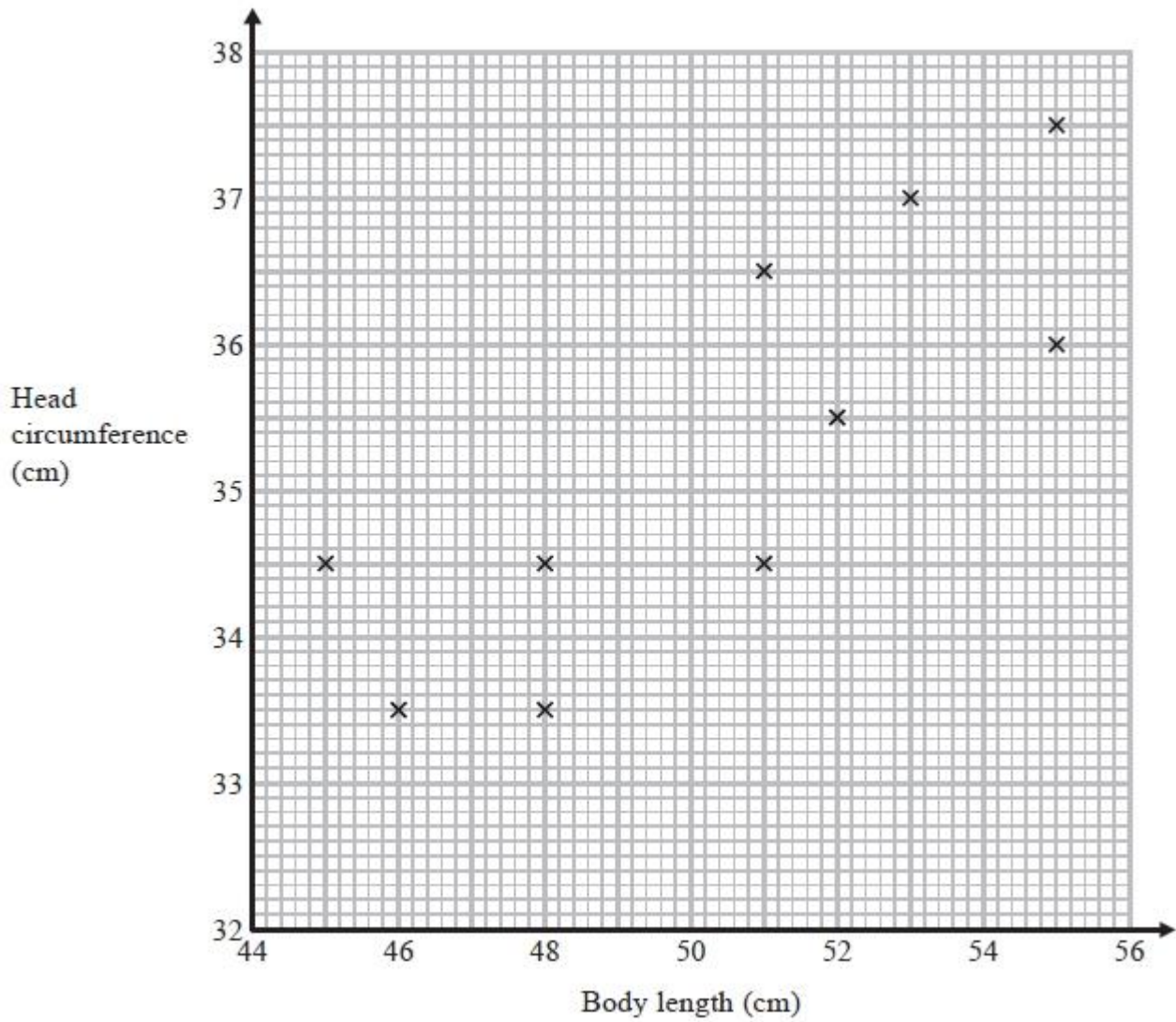
(c) Write down the number of female musicians who do **not** play a string instrument.

.....
(1)

(Total for Question is 5 marks)

Q14.

The scatter graph shows information about 10 newborn babies. It shows each baby's body length and head circumference.



Another baby has a body length of 47 cm and head circumference 34 cm.

(a) Show this information on the scatter graph.

(1)

(b) What type of correlation does the scatter graph show?

.....

(1)

A baby has head circumference 35 cm.

(c) Estimate the body length of this baby.

..... cm
(2)

(Total for question = 4 marks)

Q15.

(a) Write $\frac{7}{10}$ as a decimal.

.....
(1)

(b) Write 0.45 as a percentage.

..... %
(1)

(c) Write 30% as a fraction.
Give your fraction in its simplest form.

.....
(2)

(d) Write the number 2.738 correct to 2 decimal places.

.....
(1)

(Total for Question is 5 marks)

Q16.

Stephanie thinks of a positive number.
She squares the number and adds 7
The result is 43

What number did Stephanie think of?

.....

(Total for question = 3 marks)

Q17.

Kumar has three boxes of counters *A*, *B* and *C*.

There are x counters in box *A*.

There are $(2x + 7)$ counters in box *B*.

There are $(3x - 4)$ counters in box *C*.

There is a total of 75 counters in the three boxes.

Work out the number of counters in box *B*.

.....

(Total for question = 4 marks)

Q18.

(a) Factorise $4x + 10y$

.....

(1)

(b) Factorise $x^2 + 7x$

.....

(1)

(Total for Question is 2 marks)

Q19.

The diagram shows the cost of a bag of soil and the cost of a box of seeds.



Kate buys two bags of soil and three boxes of seeds.

She gets $\frac{1}{4}$ off the total cost.

Kate pays with a £20 note.

How much change should Kate get?

£

(Total for Question is 4 marks)