Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.											/			Signature	

Paper Reference(s)

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics

Paper 2 (Calculator)

Foundation Tier

Specimen paper

Time: 1 hour and 30 minutes

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator.
Tracing paper may be used.

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
If you need more space to complete your answer to any question, use additional answer sheets.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 24 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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Turn over

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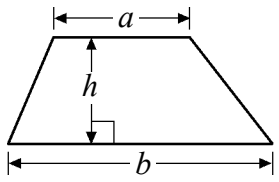
GCSE Mathematics

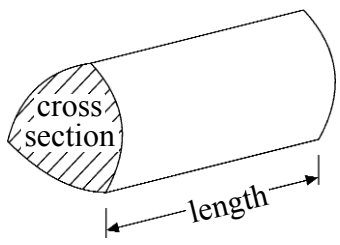
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of a prism = area of cross section × length



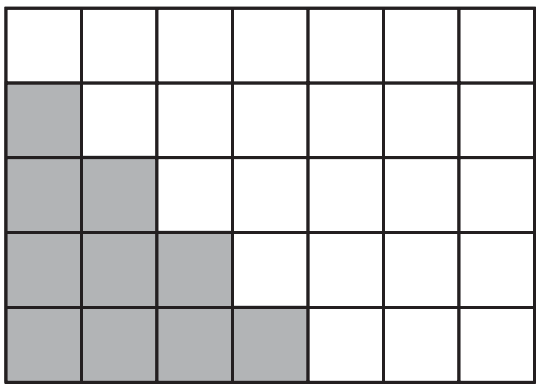
Leave blank

Answer ALL TWENTY FOUR questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. A shaded shape has been drawn on the centimetre grid.



(a) (i) Find the area of the shaded shape.

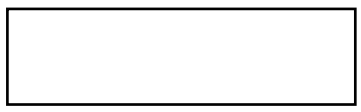
.....cm^2

(ii) Find the perimeter of the shaded shape.

.....cm

(2)

(b)

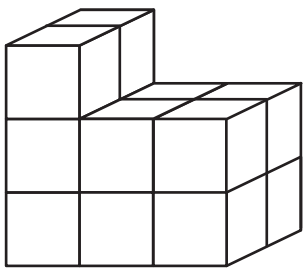


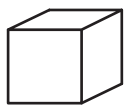
The diagram shows a rectangle.

Draw the **two** lines of symmetry on the rectangle.

(2)

(c) Find the volume of this prism.





represents 1 cm^3

Diagram **NOT** accurately drawn

.....cm^3

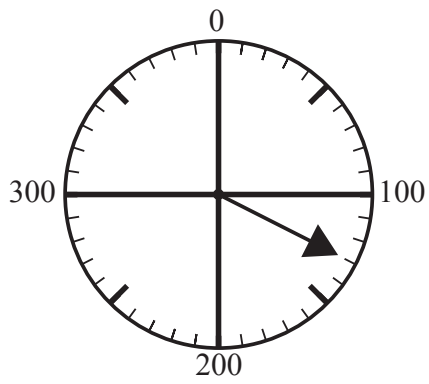
(2)

(Total 6 marks)

Q1

Leave blank

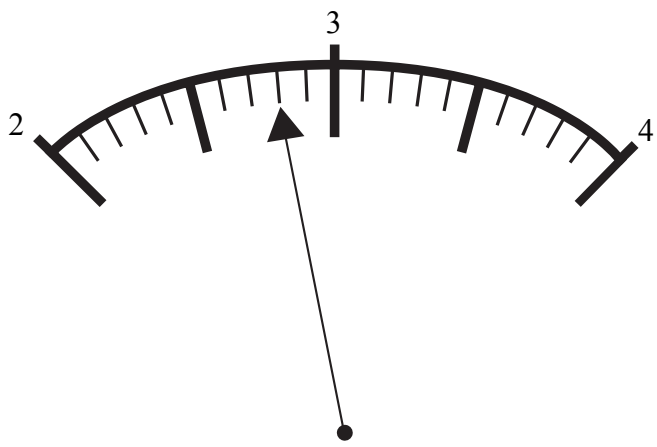
2. (a) Write down the number shown by the arrow.



.....

(1)

(b) Write down the number shown by the arrow.



.....

(1)

(c) Find the number 38 on the number line.
Mark it with an arrow (↑).

(1)

Leave blank

(d) Find the number 5.4 on the number line.
Mark it with an arrow (→).

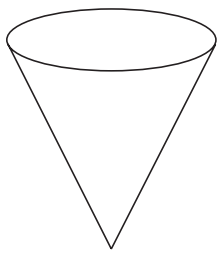
(1)

Q2

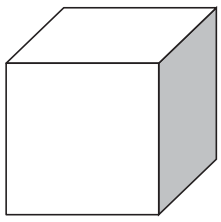
(Total 4 marks)

3. Write down the mathematical name of each of these two 3-D shapes.

(i)



(ii)



(i) .....

(ii) .....

Q3

(Total 2 marks)

Leave blank

4. Alex carried out a survey of his friends' favourite colours.

Here are his results.

Red	Blue	Yellow	Blue	Red
Green	Red	Blue	Red	Yellow
Red	Blue	Yellow	Green	Red
Yellow	Red	Red	Blue	Red

(a) Complete the table to show Alex's results.

Colours	Tally	Frequency
Red		
Blue		
Yellow		
Green		

(3)

(b) Write down the number of Alex's friends whose favourite colour was green.

.....

(1)

(c) Which was the favourite colour of most of Alex's friends?

.....

(1)

Q4

(Total 5 marks)

Leave blank

5. The table below shows the cost of three types of pen.

Gel pen	£2.20
Fibre tip pen	£2.05
Roller ball pen	£2.60

Tim buys one fibre tip pen and one gel pen.
He pays with a £5 note.

(a) How much change should he get?

.....
(4)

Mrs Holt wants to buy some roller ball pens.
She has £20 to spend.

(b) Work out the greatest number of roller ball pens she can buy.

.....
(2)

Mr Davis buys 20 gel pens.
25% of the 20 gel pens do not work.

(c) Work out 25% of 20

.....
(2)

Q5

(Total 8 marks)

Leave blank

6. (a) The 1st even number is 2

(i) Find the 4th even number.

.....

(ii) Find the 11th even number.

.....

(2)

(b) Write down a method you could use to find the 200th even number.

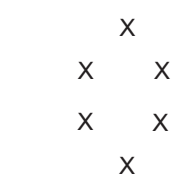
.....

.....

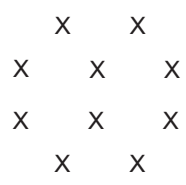
.....

(1)

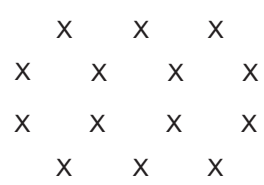
Here are some patterns made with crosses.



Pattern Number 1



Pattern Number 2



Pattern Number 3

(c) Work out the number of crosses used to make Pattern Number 5.

.....

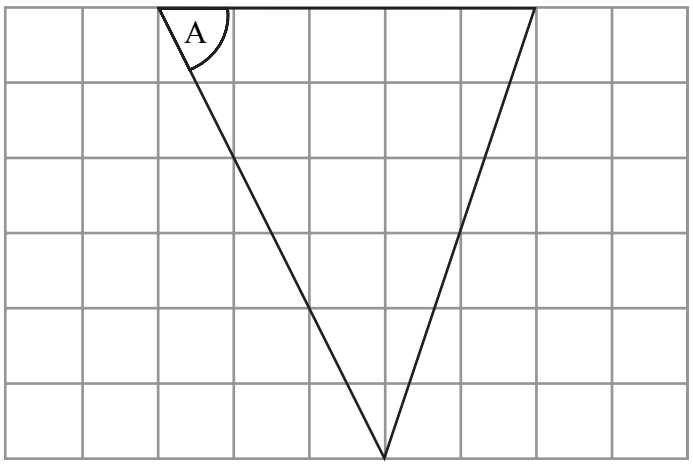
(3)

Q6

(Total 6 marks)

Leave blank

7. The diagram shows a triangle drawn on a grid of centimetre squares.



(i) Give the special name of this type of triangle.

.....

(ii) Measure the size of the angle marked with the letter A.

..... °

(iii) What type of angle have you measured?

.....

Q7

(Total 3 marks)

Leave blank

8. Helen writes down the reading on her gas meter on the first day of each month.

Reading on 1st January 2004: 3580 units
Reading on 1st February 2004: 3742 units

Gas is charged at 56p for each unit used.

(a) Work out how much Helen is charged for the gas used in January 2004.

£.....
(4)

In February 2004, Helen used 165 units of gas.

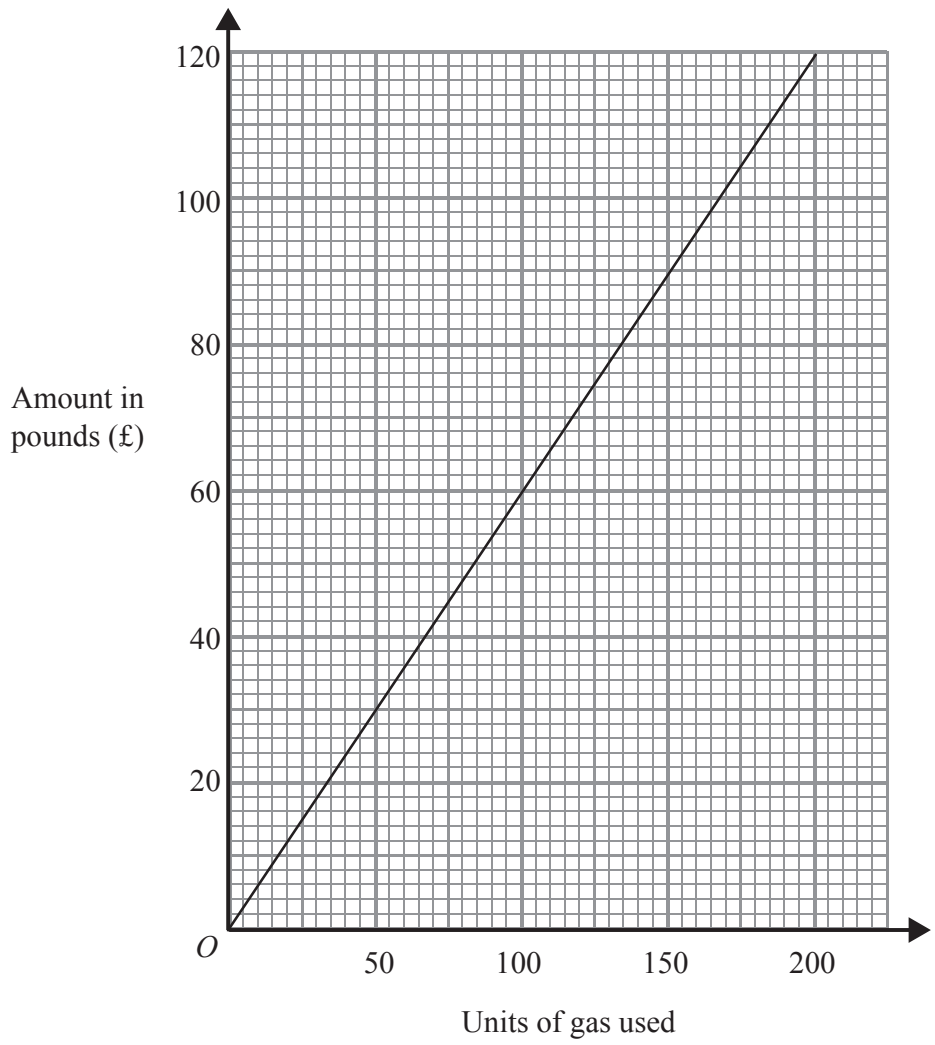
She used $\frac{1}{5}$ of these units in the first week.

(b) How many units did she use in the rest of February?

..... units
(3)

Leave blank

The gas company increases its charges for units of gas used.
Helen works out the amount she will now be charged for gas used.
She uses the graph below.



(c) Use the graph to write down

(i) the amount Helen will be charged for using 100 units of gas,

£.....

(ii) the number of units of gas used when Helen is charged £90.

..... units

(2)

(Total 9 marks)

Q8

Leave blank

9. The table shows the lowest temperatures during five months in 2004 in a town in Auckland.

Month	Lowest Temperature
January	–16 °C
March	– 6 °C
May	– 1 °C
July	4 °C
September	7 °C

(a) Work out the difference in lowest temperature between January and March.

..... °C
(1)

(b) Work out the difference in lowest temperature between March and July.

..... °C
(1)

(c) In one month, the lowest temperature was 5°C higher than the lowest temperature in May. Which month was this?

.....
(1)

The lowest temperature in November was 10 °C lower than the lowest temperature in May.

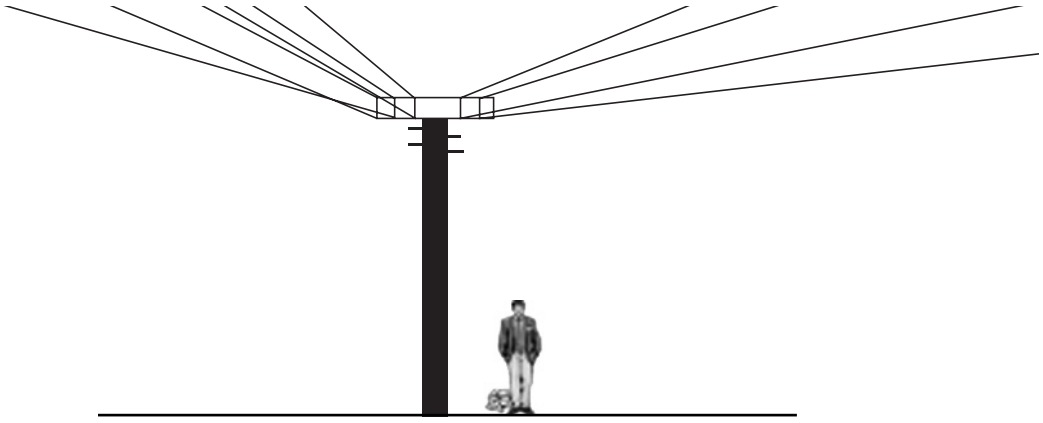
(d) Work out the lowest temperature in November.

..... °C
(1)
(Total 4 marks)

Q9

Leave blank

10.



The picture shows a man standing next to a telegraph pole.
The man and the telegraph pole are drawn to the same scale.

(a) Write down an estimate for the height, in metres, of the man.

.....

(1)

(b) Estimate the height, in metres, of this telegraph pole.

.....

(3)

(Total 4 marks)

Q10

Leave blank

11. The manager at "Wheels R Us" recorded the time in minutes it took to change the wheels on cars using his garage.

Here are his results.

25	34	12	8	6	21	18	14	16	22
21	15	16	32	9	15	18	21	12	8

(i) Draw a stem and leaf diagram to show these results.

Key: 1 | 4 = 14

(ii) Find the median time.

.....

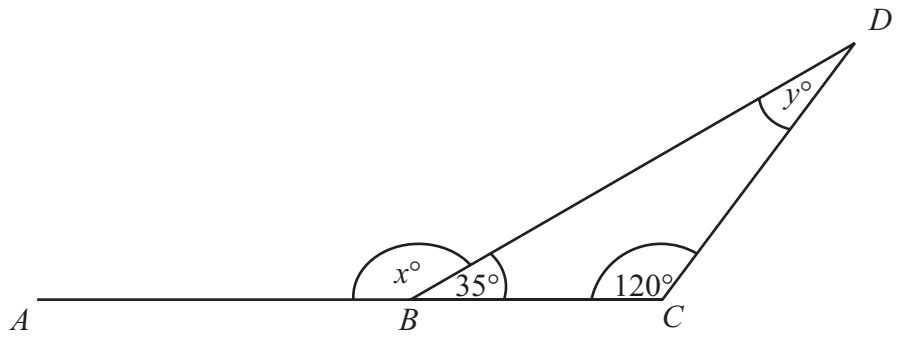
Q11

(Total 4 marks)

Leave blank

12.

Diagram **NOT** accurately drawn



ABC is a straight line.

(a) (i) Work out the size of the angle marked $x°$.

.....°

(ii) Give a reason for your answer.

.....

.....

(2)

(b) (i) Work out the size of the angle marked $y°$.

.....°

(ii) Give a reason for your answer.

.....

.....

(2)

(Total 4 marks)

Q12

Leave blank

13. Joanna made a list of the ages of the children in a playgroup.

4 3 1 4 2 4 4 2 1 2

(a) Find the median age of the children in the play group.

.....

(2)

(b) Find the range of the ages of the children in the playgroup.

.....

(1)

Q13

(Total 3 marks)

14. Angela, Barbara and Carol each collect pop star cards.

Angela has p cards.
Barbara has twice as many cards as Angela.

(a) Write down an expression for the number of cards that Barbara has.

.....

(1)

Carol has 7 cards less than Angela.

(b) Write down an expression for the number of cards that Carol has.

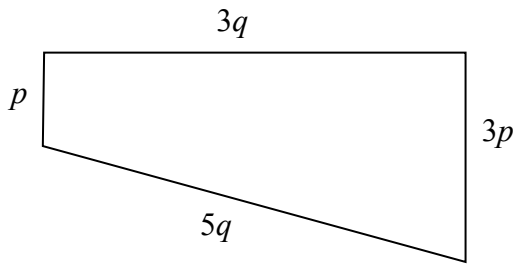
.....

(1)

Q14

(Total 2 marks)

15. Write an expression for the perimeter of the trapezium below.
Write your answer as simply as possible.



Perimeter = ...

Q15

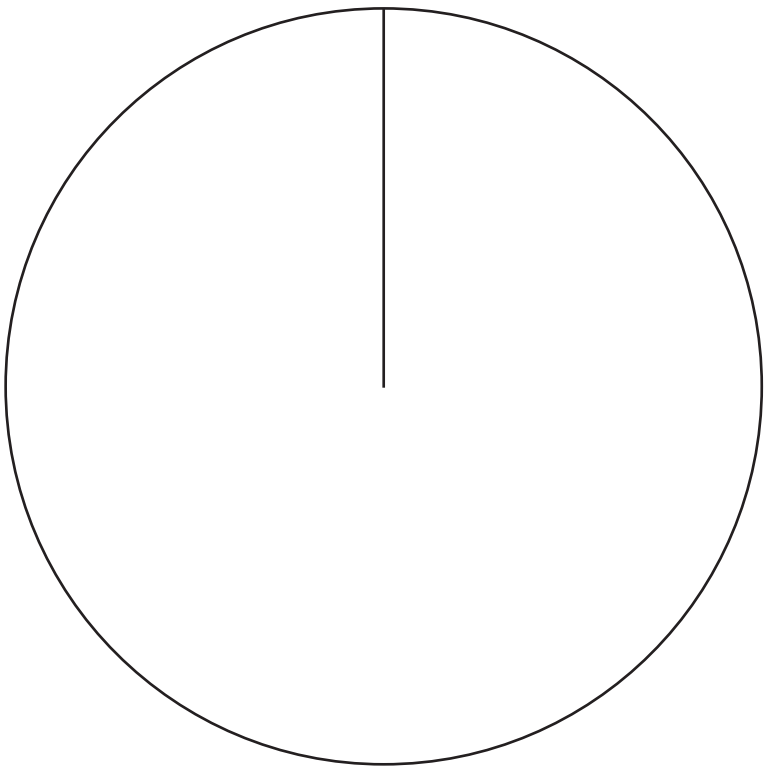
(Total 2 marks)

Leave blank

16. The table gives information about the makes of car in a garage showroom.

Makes of Car	Frequency
Ford	2
Toyota	6
Peugeot	10

Draw an accurate pie chart to show this information.

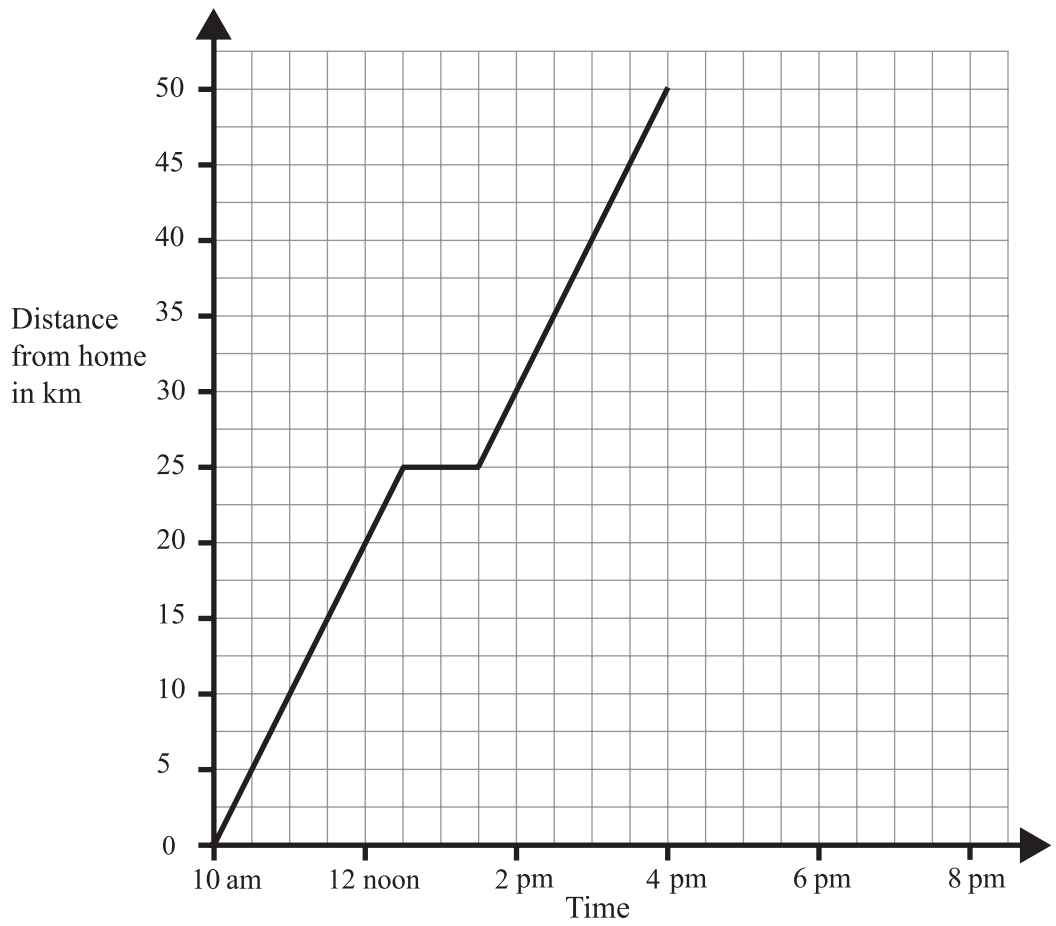


Q16

(Total 4 marks)

Leave blank

17. A man left home at 10 am to visit a friend.
The travel graph represents part of the man's journey.



The man travelled 25 km then stopped for lunch.

(a) At what time did he stop for lunch?

.....
(1)

(b) Find his distance from home at 3 pm.

.....km
(1)

The man reached his friend's home at 4 pm.
He stayed for one hour.
Then he returned home at a steady speed. It took him 3 hours.

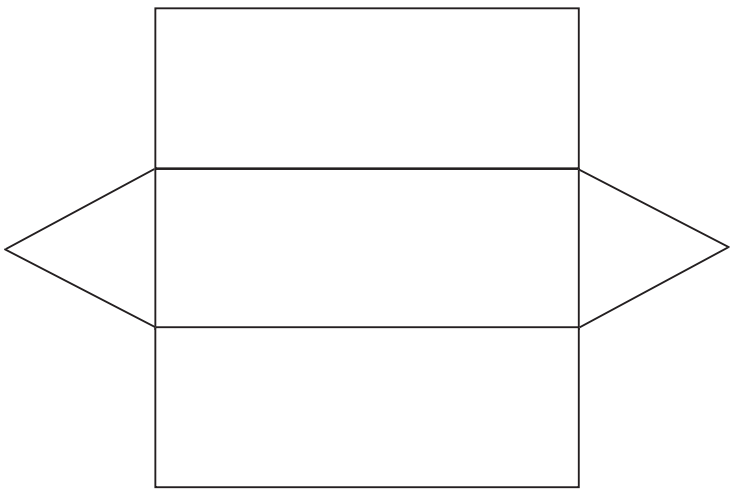
(c) Complete the travel graph.

(2) **Q17**

(Total 4 marks)

Leave blank

18.



The diagram shows a net of a prism.

In the space below, draw a 3-D sketch of the prism.

Q18

(Total 2 marks)

Leave blank

19. Sally thinks of a number.

She adds 11 to the number.
She then multiplies by 3

Her answer is 60

What number did Sally first think of?

.....

(Total 2 marks)

Q19

20. Imran plays a game of chess with his friend.
A game of chess can be won or drawn or lost.

The probability that Imran wins the game of chess is 0.3
The probability that Imran draws the game of chess is 0.25

Work out the probability that Imran loses the game of chess.

.....

(Total 2 marks)

Q20

Leave blank

21. Andy sells CDs.
He sells each CD for £8.80 plus VAT at 17 $\frac{1}{2}$ %.

He sells 650 CDs.

Work out how much money Andy gets.

£.....

(Total 4 marks)

Q21

22. (a) Solve $4(y+3)=6$

$y =$ .....

(3)

(b) Make h the subject of the formula $f=g+3h$

$h =$ .....

(2)

(Total 5 marks)

Q22

Leave blank

23. The equation

$$x^3 + 10x = 51$$

has a solution between 2 and 3
Use a trial and improvement method to find this solution.
Give your answer correct to 1 decimal place.
You must show **all** your working.

$x =$ .....

Q23

(Total 4 marks)

Leave blank

24. Three boys shared £48 in the ratio 5:4:3

Daniel received the smallest amount.

(a) Work out the amount Daniel received.

£ .....

(3)

A year ago, Daniel's height was 1.24 metres.
Daniel's height has now increased by 9.5%.

(b) Work out Daniel's height now.
Give your answer to an appropriate degree of accuracy.

..... m

(4)

Q24

(Total 7 marks)

TOTAL FOR PAPER: 100 MARKS

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