1MA0/1F

Edexcel GCSE

Mathematics (Linear) – 1MA0

Practice Paper 1F (Non-Calculator)
Set C

Foundation Tier

Time: 1 hour 45 minutes

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

Items included with question papers
Nil

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.
Calculators must not be used.

Information

The total mark for this paper is 100.
The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

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.

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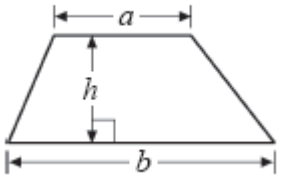
GCSE Mathematics 1MA0

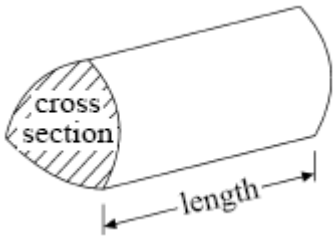
Formulae: Foundation Tier

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 prism = area of cross section × length



Answer ALL TWENTY TWO questions

Write your answers in the spaces provided.

You must write down all the stages in your working.

You must NOT use a calculator.

1. (a) Write the number **four thousand and two** in figures.

.....

(1)

(b) Write down the value of the 7 in the number 26 370

.....

(1)

(c) Write the number **2551** to the nearest hundred.

.....

(1)

(d) (i) Write 25.730 correct to 3 significant figures.

.....

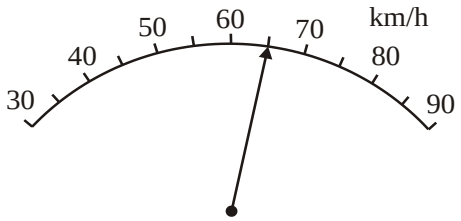
(ii) Write 25.730 correct to 1 significant figure.

.....

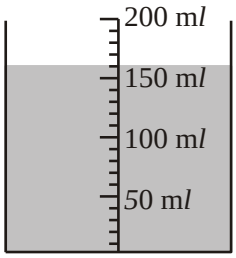
(2)

(Total 5 marks)

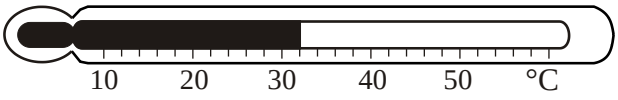
2. (i)



(ii)



(iii)



Write down the reading on each of the scales above.

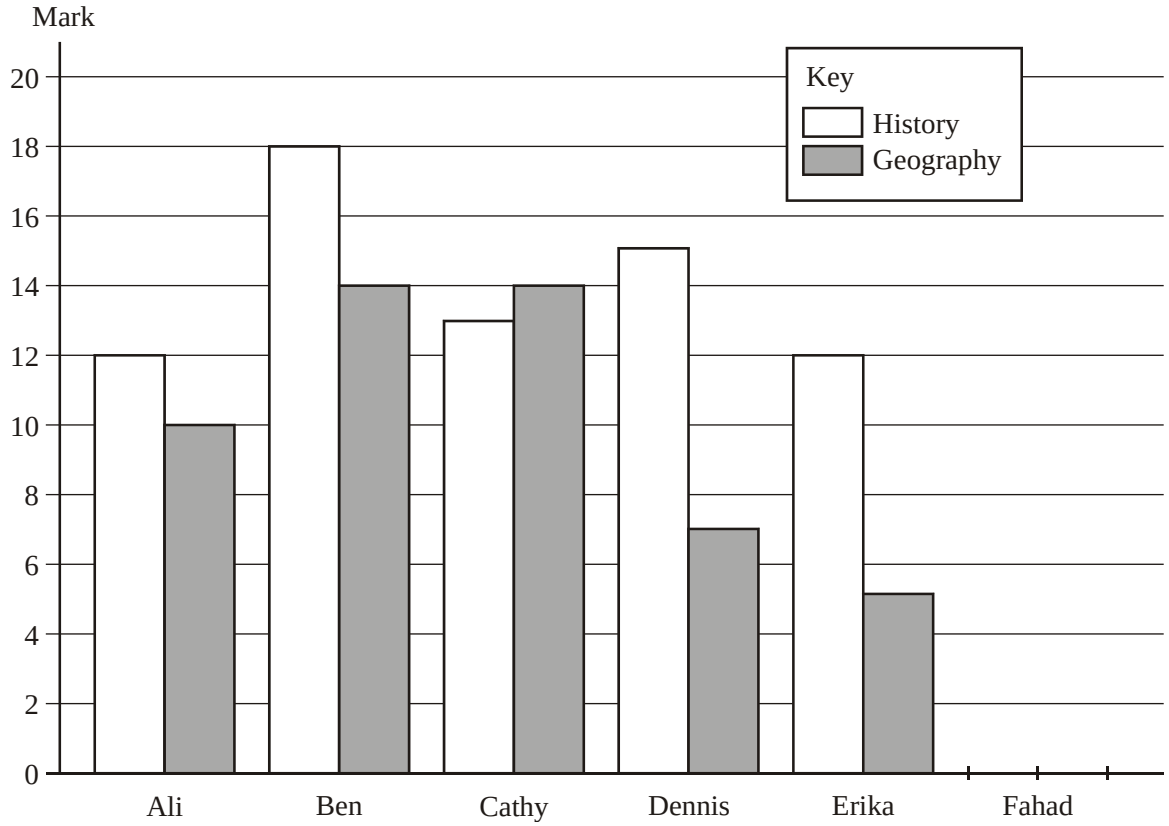
(i) ..... km/h

(ii) ..... ml

(iii) ..... °C

(Total 3 marks)

3. Six students each sat a history test and a geography test.
The marks of five of the students, in each of the tests, were used to draw the bar chart.



(a) How many marks did Ali get in his history test?

.....

(1)

(b) How many marks did Dennis get in his geography test?

.....

(1)

Fahad got 16 marks in the history test. She got 11 marks in the geography test.

(c) Use this information to complete the bar chart.

(2)

(d) Compare the history test marks and the geography test marks.

.....

.....

(1)

(Total 5 marks)

4. Barry and Kath are studying a number pattern.

The first three numbers in the number pattern are 1, 2, 4

Barry says that the next number is 8.

Kath says the next number is 7.

(a) Explain why both Barry and Kath could be right.

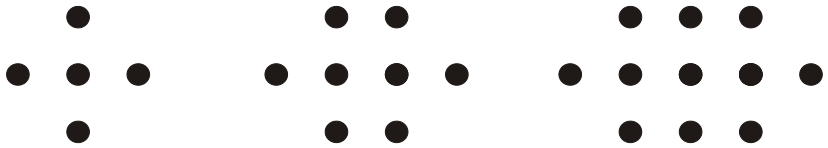
.....

.....

.....

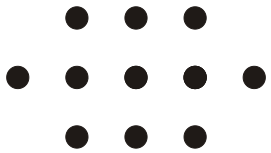
(2)

Here are some patterns made with dots.



Pattern Number 1 Pattern Number 2 Pattern Number 3

(b) In the space below, complete Pattern Number 4.



(1)

The table shows the number of dots used to make each pattern.

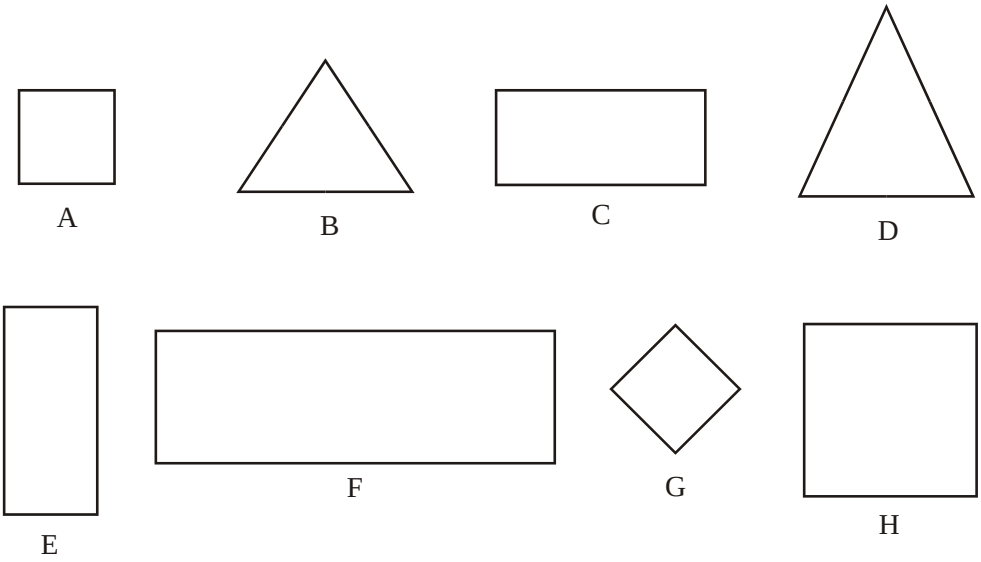
(c) Complete the table

Pattern Number	1	2	3	4	5
Number of dots	5	8	11		

(2)

(Total 5 marks)

5. Here are 8 shapes.



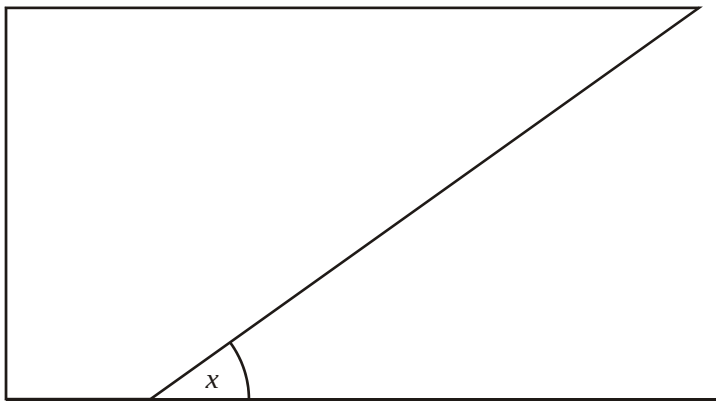
(a) Write down the letters of two **different** pairs of congruent shapes.

……. and ……

……. and ……

(2)

The lines in the diagram are straight.



(b) (i) Mark with arrows, (>>), a pair of parallel lines.

(ii) Mark with the letter R, a right angle.

(iii) What type of angle is shown by the letter *x*?

.....

(3)

(Total 5 marks)

6. Jessica's annual income is £12 000
She pays 10% of the £12 000 in rent.
She spends $\frac{1}{4}$ of the £12 000 on clothes.
Work out how much of the £12 000 Jessica has left.

£ .....

(Total 3 marks)

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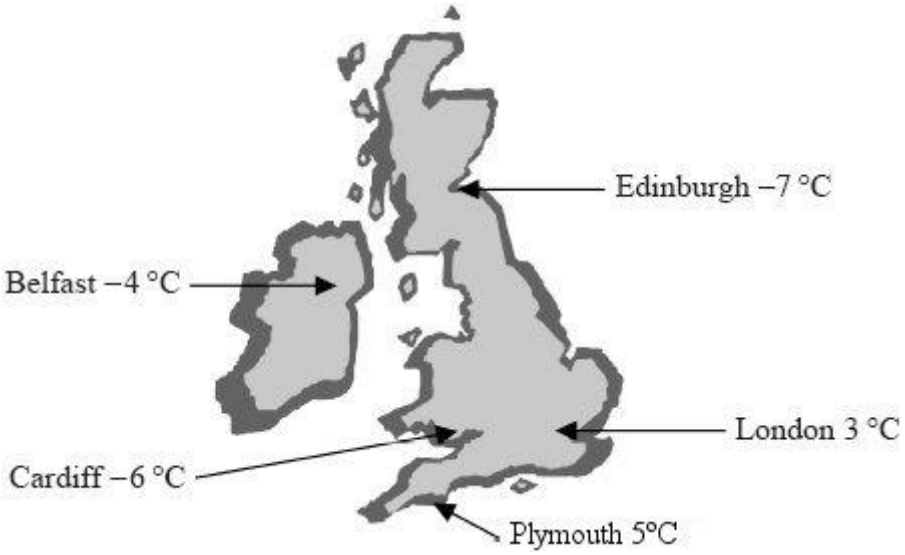
7. Here is a map of the British Isles.

The temperatures in some places, one night last winter are shown on the map.



(i) Write down the names of the two places that had the least difference in temperature.

.....

(ii) Work out the difference in temperature between these two places.

.....°C

(Total 3 marks)

---

8. You can use this rule to work out the number of minutes it takes to cook a turkey.

Multiply the turkey's weight, in kg, by 40 Then add 30.

A turkey's weight is 4.5 kg.

Use the rule to work out the number of minutes it will take to cook this turkey.

…… minutes

(Total 2 marks)

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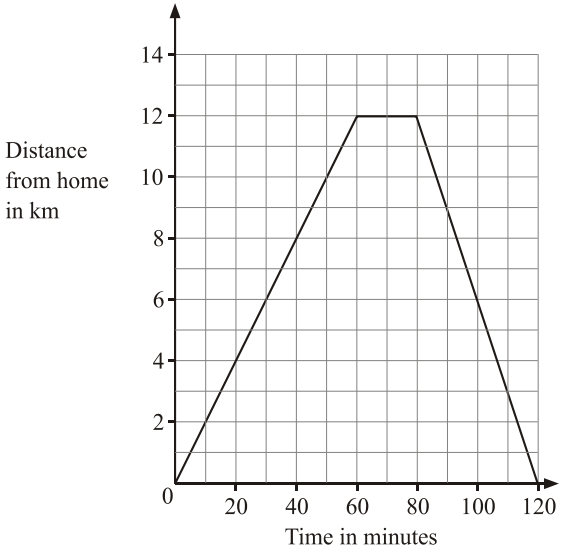
9. Pauline went on a cycle ride.
The travel graph shows Pauline's distance from home on this cycle ride.



(a) How far had Pauline cycled after 30 minutes?

..... km
(1)

After 60 minutes, Pauline stopped for a rest.

(b) For how many minutes did she rest?

..... minutes
(1)

(c) How far did Pauline cycle in total on her ride?

..... km
(1)

(Total 3 marks)

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10. (a) Work out 41.3 × 100

……

(1)

(b) Work out 0.4 × 0.6

……

(1)

(c) Work out 600 – 438

……..

(2)

(d) Work out 285 × 34

……..

(2)

(Total 6 marks)

---

11. Viv is training to keep fit.

One part of Viv's training session is a 40 second run followed by a 2 minute walk.

She repeats this run and walk 5 times.

Before doing this, she does some warm-up exercises for 10 minutes.

She does a 10 minute cooling down exercise.

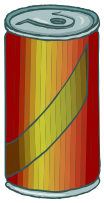
Viv started this training session at 12 30

(a) At what time, to the nearest minute, did Viv finish her training session?

.....

(4)

To help her training, Viv has energy drinks.



She buys a pack of 12 energy drinks for £9.18

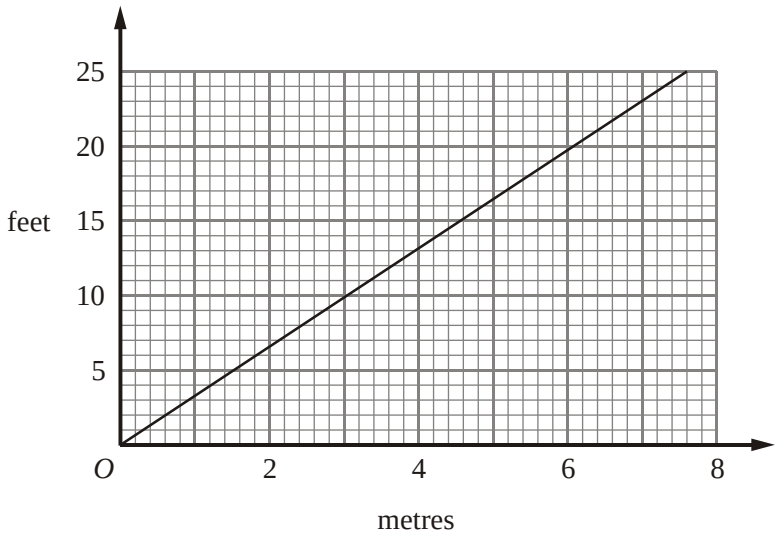
(b) Work out the cost of one energy drink.

..... p

(3)

(Total 7 marks)

12.



This conversion graph can be used to change between metres and feet.

(a) Use the conversion graph to change 6 metres to feet.

..... feet
(1)

(b) Use the conversion graph to change 15feet to metres.

..... metres
(1)

The height of Mount Everest is 30 000 feet correct to one significant figure.

(c) Estimate the height of Mount Everest in metres.

…… metres
(3)

(Total 5 marks)

13. Here is a rectangle.

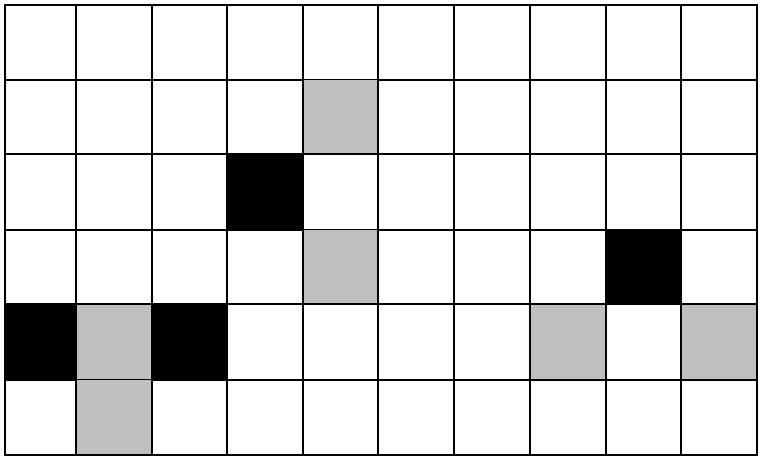
(a) On the rectangle, draw all the lines of symmetry.

(2)

Les is tiling his floor with square tiles.
The tiles are in two colours.

The diagram below shows the partially tiled floor.

(b) On the grid, complete the tiling so that the pattern has rotational symmetry of order 2



(3)
(Total 5 marks)

14. Here is a pyramid.
It has a square base with sides of length 4 cm.
The other four edges of the pyramid are each of length 4.5 cm.

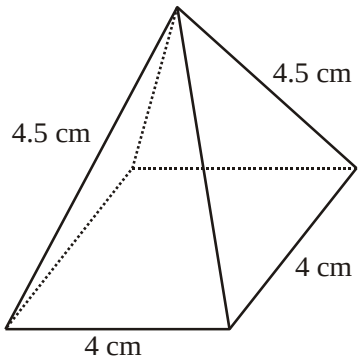


Diagram **NOT** accurately drawn

On the centimetre grid, make an **accurate** drawing of a net of this pyramid.

(Total 3 marks)

15. Bob has 24 toy bricks.
Each toy brick is in the shape of a cube.
Each cube has sides of length 2 cm.

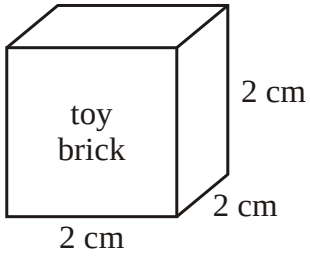


Diagram **NOT** accurately drawn

Bob builds a solid cuboid.
He uses all 24 toy bricks.

(a) Write down the length, width and height of one cuboid that Bob can build.

length ..... cm

width ..... cm

height .....cm

(2)

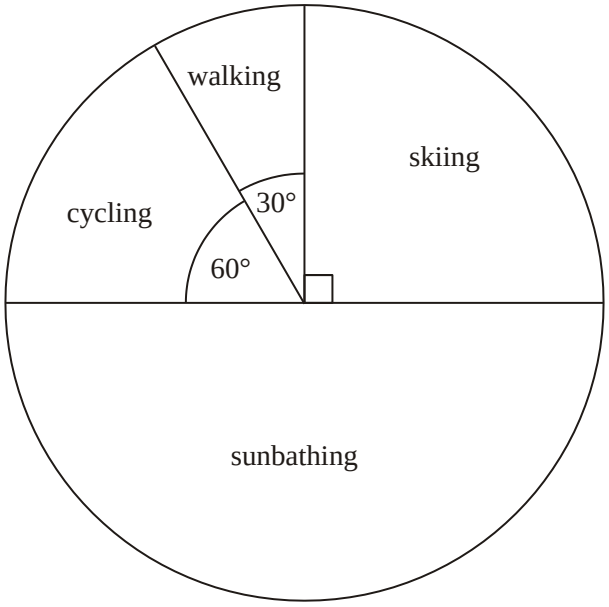
(b) Work out the volume of your cuboid in part (a).

..... cm^3

(2)

(Total 4 marks)

16. Noreen carries out a survey of some students.
The pie chart shows some information about their favourite holiday.



5 students said that walking is their favourite holiday.

(a) How many students took part in the survey?

.....
(2)

Noreen chooses one of these students at random.

(b) Write down the probability that this student's favourite holiday is cycling.

.....
(1)
(Total 3 marks)

17. A postman delivers mail on Bolton Road.
45% of the mail is either junk mail or magazines.

(a) Write 45% as a fraction.
Give your answer in its simplest form.

.....

(2)

Each house number on one side of the road is an even number.

The postman delivers to houses from house number 308 to house number 400

(b) Work out the greatest number of houses between house number 308 and house number 400

.....

(2)

On the opposite side of the road each house number is an odd number.

The postman delivers mail to *n* houses on this side of the road.

He delivers mail to house number 321, house number 323, and so on.

(c) Write down an expression, in terms of *n*, for the least number of the final house.

.....

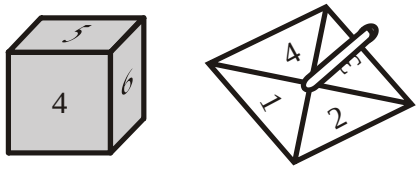
(2)

(Total 6 marks)

18. A village fair has stalls to raise money for charity.

On one stall there is a game where you roll a 6-sided dice and spin a 4-sided spinner.

The dice is labelled 1, 2, 3, 4, 5, 6
The spinner is labelled 1, 2, 3, 4



The score on the dice and the score on the spinner are added to get the total score.
The table shows some of the possible total scores.

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3					
3	4					
4	5					

(a) Complete the table of possible total scores.

(2)

People pay 50p to play the game.

The prizes are:

£1 for a total score of 7 or 8

£2 for a total score of 9 or 10

During one day of the fair, exactly 360 people played the game.

(b) Did the stall make a profit or a loss on this day?
You must fully explain your answer.

(5)

(Total 7 marks)

19. (a) Solve $\frac{x}{3} = 7$

$x =$ .....

(1)

(b) Solve $2x + 4 = 6(x - 1)$

$x =$ .....

(3)

(Total 4 marks)

20.

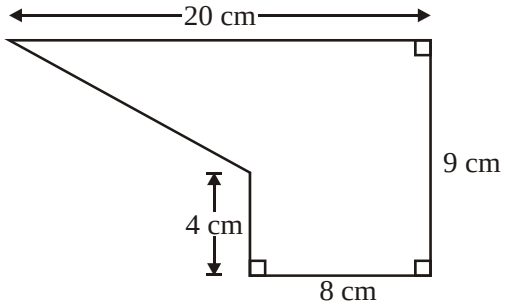


Diagram **NOT** accurately drawn

The diagram shows a shape.

Work out the area of the shape.

..... cm^2

(Total 4 marks)

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21. Gordon is going to open a restaurant.
He wants to know how often people eat out at a restaurant.
He designs a questionnaire.

He uses this question on a questionnaire.

"How often do you go to a restaurant?"

Never	Sometimes	Often

(a) Write down two things that are wrong about this question.

1.....

.....

2.....

.....

(2)

(b) Design a suitable question Gordon could use to find out what **type** of restaurant people like.

(2)

Gordon asks his family "Do you agree that pizza is better than pasta?"

This is **not** a good way to find out what people who might use his restaurant like to eat.

(c) Write down **two** reasons why this is **not** a good way to find out what people who might use his restaurant like to eat.

1st reason .....

.....

2nd reason .....

.....

(2)
(Total 6 marks)

22. Mr Green buys a garden spade.
The spade costs £19.50 plus 20% VAT.

Garden spade
£19.50 + 20% VAT

(a) Calculate the total cost of the spade.

£ .....
(3)

Mr Green makes some compost.
He mixes soil, manure and leaf mould in the ratio 3:1:2

Mr Green makes 72 litres of compost.

(b) How many litres of leaf mould does he use?

..... litres
(3)
(Total 6 marks)

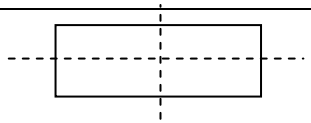
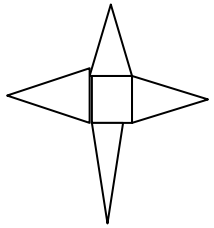
TOTAL FOR PAPER: 100 MARKS

END

Question		Working	Answer	Mark	Notes
1(a)			4002	1	B1 cao
1(b)			70	1	B1 cao
1(c)			2600	1	B1 cao
1(d)(i) (ii)			25.7 30	2	B1 cao B1 cao
2(i)			65	1	B1 cao
(ii)			160	1	B1 cao
(iii)			32	1	B1 cao
3(a)			12	1	B1 cao
3(b)			7	1	B1 cao
3(c)			Bar graph	2	B2 cao [B1 for each correct bar]
3(d)			History marks higher/Geog harder test	1	B1 for History marks higher/Geog harder test, oe

Question		Working	Answer	Mark	Notes
4(a)			Differences increase by1(for 7) Powers of 2 (for 8)	2	B1 for a correct explanation of each sequence
4(b)			4 dots,6 dots, 4 dots	1	B1 cao
4(c)			1, 8, 11, **14, 17**	2	B2 cao [B1 for each correct entry]
5(a)			A and G	2	B1 cao
5(b)(i)			C and E		B1 cao
(ii)			Arrows on top and bottom lines	3	B1 cao
(iii)			R on top left or bottom left angle		B1 for either right angle correctly labeled
			Acute		B1 cao
6		10/100 x 12000 = 1200 12000 ÷ 4 = 3000 12000 – 1200 - 3000	7800	3	M1 for 10/100 x 12000 or 12000 ÷ 4, oe M1 for 12000 – '1200' – '3000' A1 cao
7(i)			Cardiff and Edinburgh	3	B1 cao
(ii)		-6 –(-7)	1		M1 for -6 –(-7) A1 cao
8		4.5 x 40 + 30 = 180 + 30	180	2	M1 for 4.5 x 40 + 30 A1 cao

Question		Working	Answer	Mark	Notes
9(a)			6	1	B1 cao
9(b)			20	1	B1 cao
9(c)			24	1	B1 cao
10(a)			4130	1	B1 cao
10(b)			0.24	1	B1 cao
10(c)			162	2	M1 for a fully correct method A1 cao
10(d)			9690	2	M1 for a fully correct method, condone one multiplication error A1 cao
11(a)		2min 40 s x 5 = 13min 20s 13m 20 s + 10 x 2 = 33m 20s 12 30 + 33	13 03	4	M1 for 2min 40 s x 5 (= 13min 20s) M1 for '13m 20s' + 10 x 2 A1 for 33min 20s, oe A1 cao
11(b)		918 ÷ 12 76 r 6 (= 76.5)	76.5	3	M1 for 918 ÷ 12 A1 for 7 r 7 A1 for 76.5 [accept 76 or 77]

Question		Working	Answer	Mark	Notes
12(a)			18 to 20	1	B1 for answer in range 18 to 20
12(b)			4.4 to 4.6	1	B1 for answer in range 4.4 to 4.6
12(c)		Eg. 10ft = 3m 30000 ÷ 10 x 3	9000	3	M1 for a correct reading to find a conversion factor M1 for correct application of conversion factor A1 for answer in range 8500 to 9500
13(a)				2	B2 cao [- B1 for each error or extra line]
13(b)				3	B 3 for a fully complete tiled floor with rot symm of order 2 [B2 for floor with rot symm of order 2 B1 for at least 2 correct additional tiles]
14				3	B3 for an accurate net [B2 for a net with 1 square and 4 isos triangles with error in dimensions B 1 for a square and 4 any sized triangles]
15(a)			12, 4, 4	2	M1 for a cuboid with all dimensions of even value A1 for correct possible dimensions
15(b)		8 x 24	192	2	M1 ft for 'length' x 'width' x 'height' A1 cao

Question		Working	Answer	Mark	Notes
16(a)		360/30 x 5	60	2	M1 for 360/30 x 5 A1 cao
16(b)		60/360	1/6	2	B2 cao [B1 for ?/360 or 60/? oe]
17(a)		45/100	9/20	2	M1 for 45/100 A1 cao
17(b)		(400 – 308)/2 + 1	47	2	M1 for (400 – 308)/2 or 46 seen A1 cao
17(c)			$2n - 1$	2	B2 cao [B1 for $2n \pm k$ where $k \neq -1$]
18(a)			4 5 6 7 8 5 6 7 8 9 6 7 8 9 10	2	B2 for a fully correct table [B1 at least 5 correct entries]
18(b)		P(7 or 8) = 7/24 P(9 or 10) = 3/24 7/24 x 360 x 1 = 105 3/24 x 360 x 2 = 90 Takings = 360 x 0.5 = 180	A loss of £15	5	M1 for P(7 or 8) {= 7/24}or P(9 or 10) {= 3/24} oe M1 for '7/24' x 360 x 1(= 105) or'3/24' x 360 x 2 (= 90) M1 for 360 x 0.5 (= 180) A1 for 180 and 195 seen C1 for 'a loss of £15' oe
19(a)			21	1	B1 cao
19(b)		$2x + 4 = 6(x - 1)$ $2x + 4 = 6x - 6$ $10 = 4x$	2.5	3	M1 for $2x + 4 = 6(x - 1)$ M1 for $4 + 6 = 6x - 2x$ A1 cao

Question		Working	Answer	Mark	Notes
20		9 x 8 + ½ x 5 x 12	102	4	M1 for splitting M1 for either 9 x 8 or ½ x 5 x 12 oe M1 for 9 x 8 + ½ x 5 x 12 A1 cao
21(a)			Vague response boxes Question does not include a time period	2	B1 for a correct criticism of the question B1 for a correct criticism of the response boxes
21(b)			How many times a month do you go to a restaurant? 0 1 – 3 4 – 5 6+	2	B1 for a relevant question inc. time period B1 for at least 3 non-overlapping response boxes
21(c)			A leading question Restricted/biased sample	2	B1 for a 'leading/biased' question oe B1 for 'small/biased'sample oe
22(a)		19.5 + 19.5/5	23.40	3	M1 for 19.5/5 M1 for 19.5 + 19.5/5 oe A1 cao
22(b)		72 ÷ 6 = 12 12 x 2	24	3	M1 for 72 ÷ 6 M1 for '12' x 2 A1 cao