

1MA0/2F

Edexcel GCSE

Mathematics (Linear) – 1MA0

Practice Paper 2F (Calculator)

Set A



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 may 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.

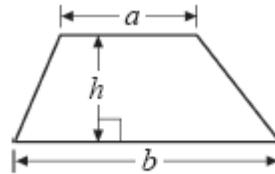
Check your answers if you have time at the end.

GCSE Mathematics 1MA0

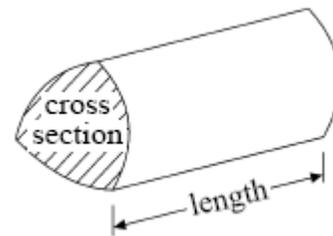
Formulae: Foundation Tier

**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 \times length

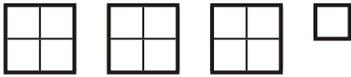
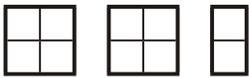


Answer ALL TWENTY FIVE questions

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Here is a pictogram.
It shows the number of books read by Asad, by Betty, and by Chris.

Asad	
Betty	
Chris	
Diana	
Erikas	

Key
 represents 4 books

(a) Write down the number of books read by

(i) Chris,

.....

(ii) Betty.

.....

(2)

Diana read 6 books.

Erikas read 9 books.

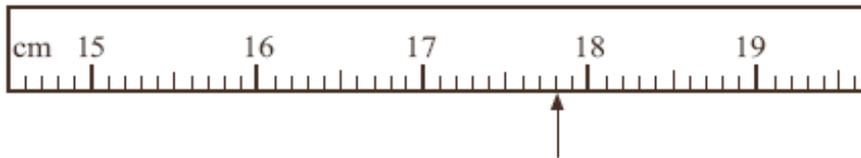
(b) Show this information on the pictogram.

(2)

(Total 4 marks)

2. This is part of a ruler.

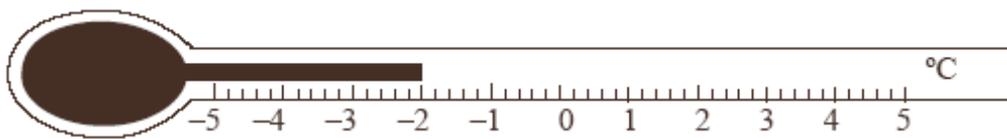
(a) Write down the length marked with an arrow.



.....cm
(1)

This is a thermometer.

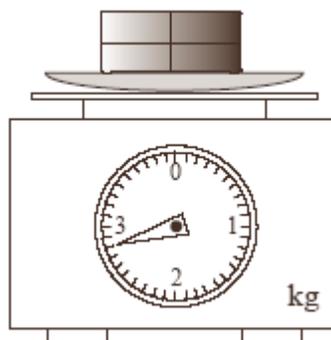
(b) Write down the temperature shown.



.....°C
(1)

This is a parcel on some scales.

(c) Write down the weight of the parcel.



..... kg
(1)

(Total 3 marks)

3. Jayne writes a cheque for £1326

Write £1326 in words.

..... (1)

On another cheque, Jayne writes an amount in words as

FIVE HUNDRED AND FOUR POUNDS AND 47p

Write **FIVE HUNDRED AND FOUR POUNDS AND 47p** in figures.

£ (1)

Jayne is paid £2639 each month.

Write £2639 to the nearest hundred pounds.

£ (1)

(Total 3 marks)

4. Here are 12 test scores of Jessica.

8 9 8 7 9 6 5 5 8 7 5 8

Write down the mode.

..... (1)

(b) Find the median.

..... (2)

(c) Find the range.

..... (2)

(Total 5 marks)

5. The table shows the distances, in miles, between 4 cities.

London			
74	Portsmouth		
39	58	Reading	
97	41	57	Salisbury

(a) Write down the distance between London and Salisbury.

..... miles
(1)

(b) Which two cities are the shortest distance apart?

..... and

(1)

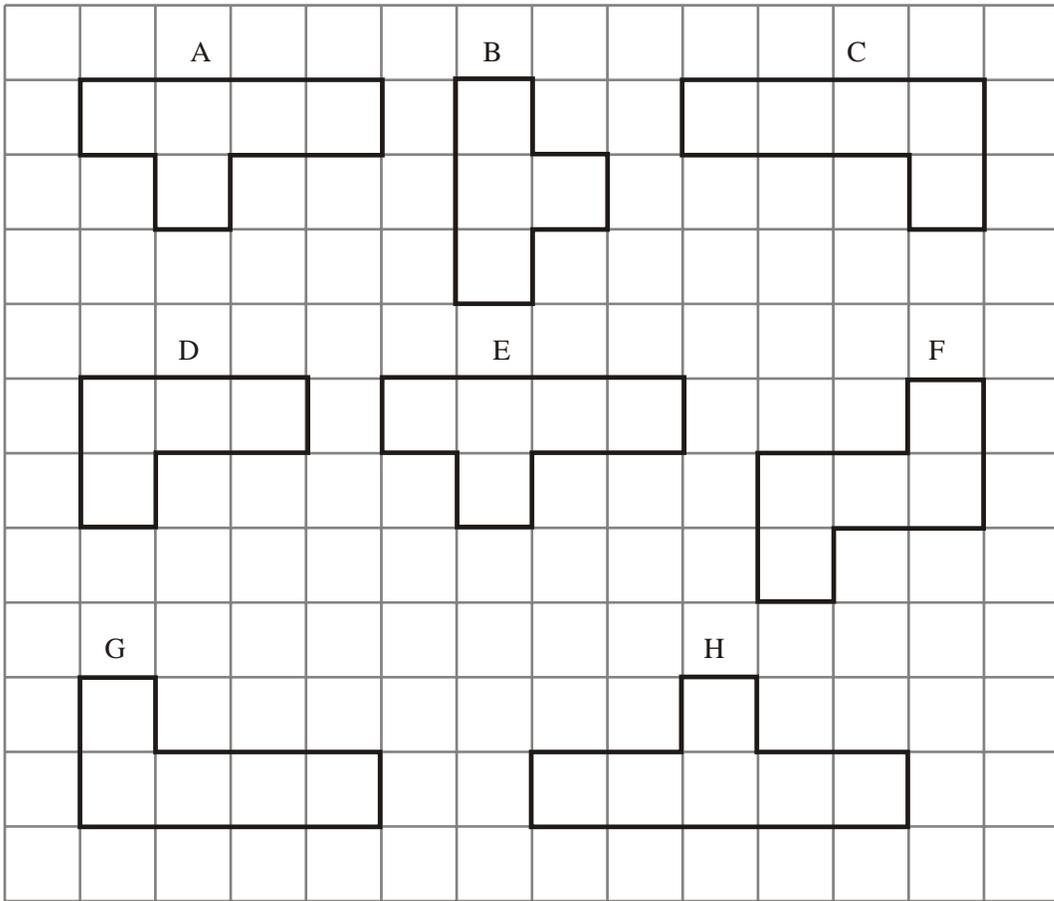
Nassim drives from Portsmouth to Salisbury.
He then drives from Salisbury to Reading.
Finally he drives from Reading to Portsmouth.

(c) Work out the total distance Nassim drives.

..... miles
(3)

(Total 5 marks)

6. Here are 8 shapes.



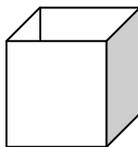
(a) Write down the letters of two different pairs of congruent shapes.

..... and

..... and

(2)

The diagram shows an open box in the shape of a cube.



(b) Write down the letters of the two shapes which could not form a net of this open box.

.....

(2)

(Total 4 marks)

7. (a) Complete this table.
Write a sensible unit for each measurement.

	Metric	Imperial
The weight of a turkey	pounds
The volume of water in a swimming pool	gallons
The width of this page	centimetres

(3)

- (b) Change 4 centimetres to millimetres

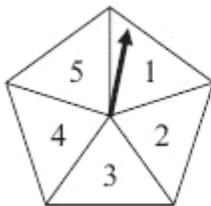
..... mm
(1)

- (c) Change 1.5 kilograms to grams

..... g
(1)

(Total 5 marks)

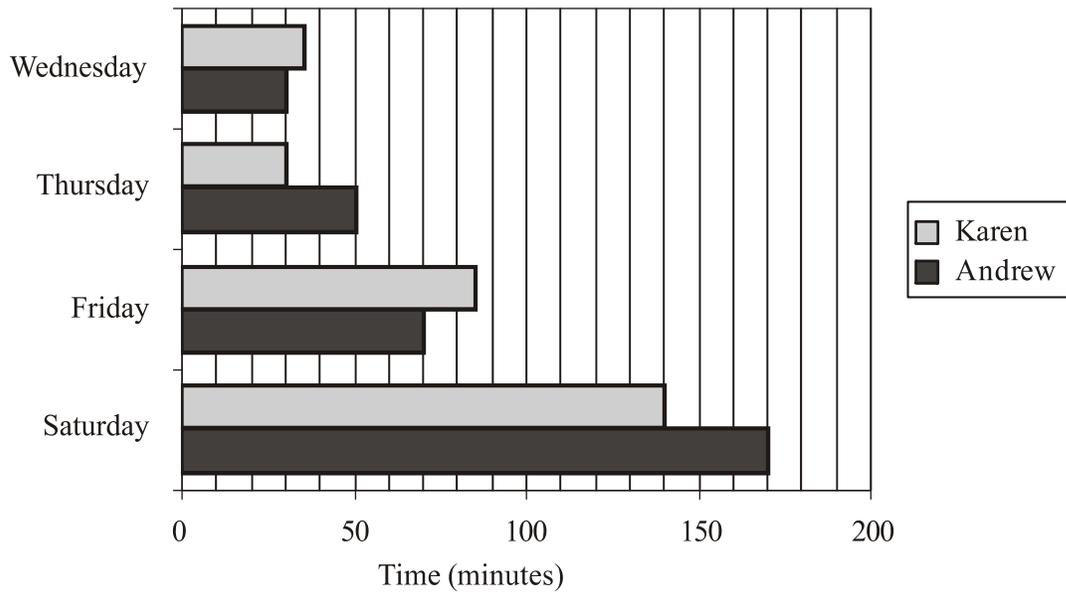
8. Daniel spins a fair 5-sided spinner.
She then throws a fair coin.



Find all the possible outcomes he could get.

(Total 2 marks)

9. The bar chart shows information about the amount of time, in minutes, that Andrew and Karen spent watching television on four days last week.



Karen spent more time watching television than Andrew on two of these four days.

- (a) Write down these two days.

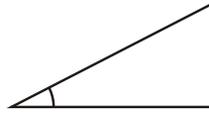
.....
 and
(2)

- (b) Work out the total amount of time Andrew spent watching television on these four days.

..... minutes
(2)

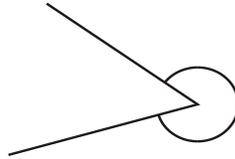
(Total 4 marks)

10. (a) Write down the special name for this type of angle.



.....
(1)

(b) Write down the special name for this type of angle.



.....
(1)

(c)

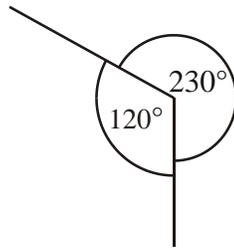


Diagram **NOT**
accurately drawn

This diagram is wrong.
Explain why

.....
(1)

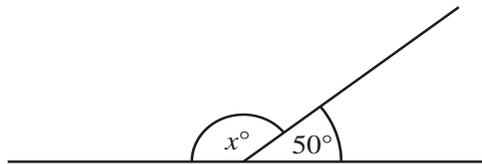


Diagram **NOT**
accurately drawn

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

.....^o

(ii) Give a reason for your answer.

.....
(3)

(Total 6 marks)

11. (a) Solve $4w = 20$

$w = \dots\dots\dots$
(1)

(b) Solve $x - 6 = 3$

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

(b) Solve $\frac{y}{3} = 7$

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

(Total 3 marks)

12. Imran thinks of a number.
He multiplies the number by 4
He then subtracts 13
His answer is 47

What number did Imran first think of?

$\dots\dots\dots$
(Total 3 marks)

13. (a) The first odd number is 1.

(i) Find the 12th odd number.

.....

(ii) Write down a method you could use to find the 100th odd number.

.....

.....

(2)

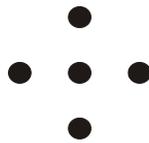
n is a whole number.

What type of number is $2n$?

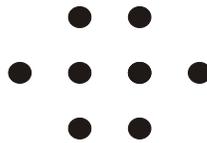
.....

(1)

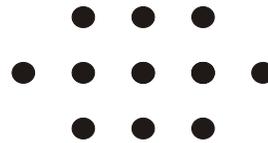
Here are some patterns made with dots.



Pattern Number 1

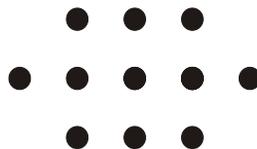


Pattern Number 2



Pattern Number 3

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



(ii) Work out the number of dots used to make Pattern Number 20

.....

(3)

(Total 6 marks)

14. There are some pens in a box.
 The pens are red, blue, green or black.
 The table shows the percentage of red, blue and green pens in the box.

Colour of pen	Percentage
Red	23 %
Blue	35 %
Green	10 %
Black	

Work out the percentage of black pens in the box.

..... %
(2)

There are 20 green pens in the box.

Work out the number of blue pens in the box.

.....
(3)

(Total 5 marks)

- *15. Robert is in hospital.

He takes a pill every 6 hours.
 He has some medicine every 8 hours.
 He has an injection every 12 hours.

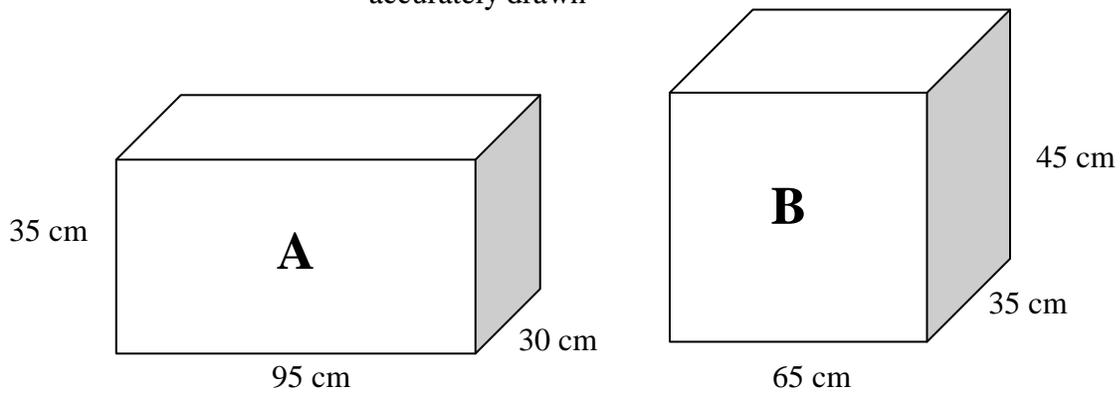
At 08 00, Robert took a pill, had some medicine and an injection.

At what time will Robert again have all three together?
 You must show your working.

.....
(Total 3 marks)

*16. The diagram shows two fish tanks, each in the shape of a cuboid.

Diagram **NOT**
accurately drawn



Finley fills both fish tanks with water.

Which fish tank holds the most water?
You must show all your calculations.

(Total 4 marks)

*17. A basic calculator costs £3
A scientific calculator costs £5
Julie spends exactly £100 on calculators.

Work out the greatest number of calculators that Julie could have bought.

.....
(Total 3 marks)

18. A customer who cancels a holiday with Funtours has to pay a cancellation charge. The cancellation charge depends on the number of days before the departure date the customer cancels the holiday.

The cancellation charge is a percentage of the cost of the holiday.
The table shows the percentages.

Number of days before the departure date the customer cancels the holiday	Percentage of the cost of the holiday
29–55	40%
22–28	60%
15–21	80%
4–14	90%
3 or less	100%

The cost of Amy's holiday was £840
She cancelled her holiday 25 days before the departure date.

- (a) Work out the cancellation charge she had to pay.

£
(2)

The cost of Carol's holiday was £600
She cancelled her holiday and had to pay a cancellation charge of £480

- (b) Give the range of the number of days in which Carol cancelled her holiday.

.....
(3)

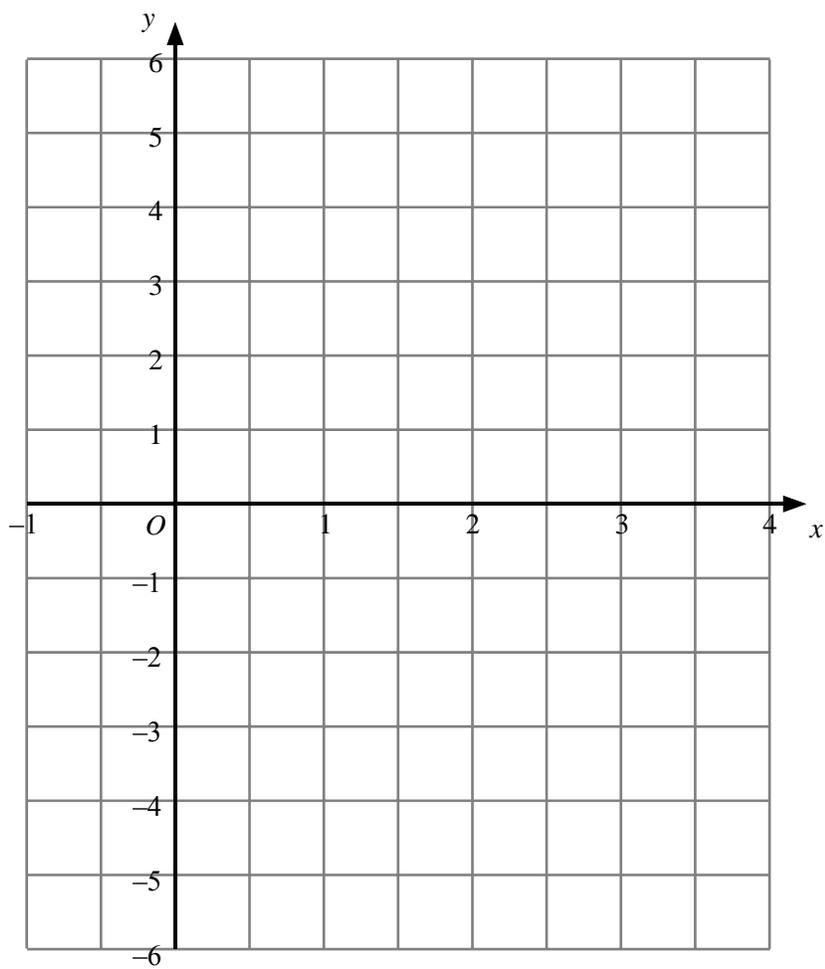
(Total 5 marks)

19. (a) On the grid,

(i) draw the line $x = 3$

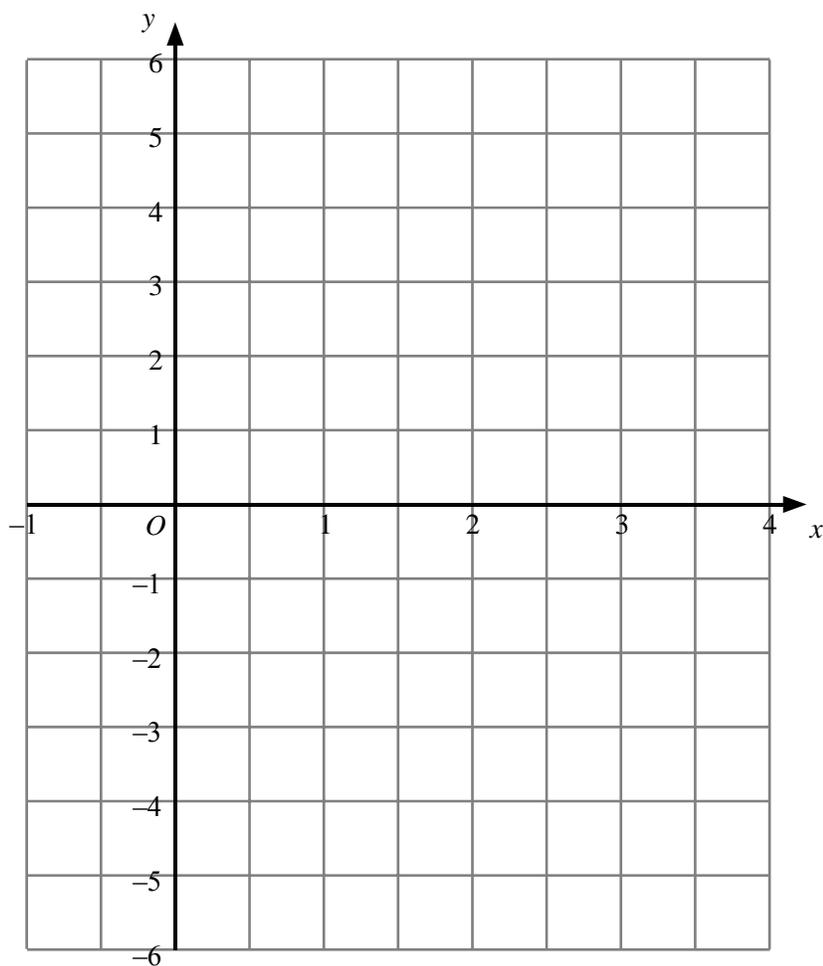
(ii) draw the line $y = -1$

(iii) draw the line $y = x$



(3)

(b) On the grid, draw the graph of $y = 2x - 3$



(3)

(Total 6 marks)

20. Solve $2(x + 5) = 17 - 3x$

$x = \dots\dots\dots$

(Total 3 marks)

***21.** This is a list of ingredients for making a pear & almond crumble for 4 people.

Ingredients for 4 people: 80 g plain flour 60 g ground almonds 90 g soft brown sugar 60 g butter 4 ripe pears
--

Jessica wants to make a pear & almond crumble for 10 people.

Here is a list of the amount of each ingredient Jessica has in her cupboard.

- 250 g plain flour
- 100 g ground almonds
- 200g soft brown sugar
- 150 g butter
- 8 ripe pears

Work out which ingredients Jessica needs to buy more of.
You must show all of your working.

(Total 4 marks)

22. Peter works out the cost of the gas he used last year.
 At the start of the year, the gas meter reading was 12967 units.
 At the end of the year, the gas meter reading was 14059 units.
 Each unit of gas he used cost 44p.

Work out the mean cost per month of the gas he used last year.

£
(Total 5 marks)

23.

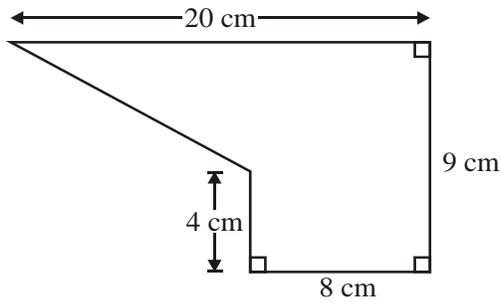


Diagram **NOT**
 accurately drawn

The diagram shows a shape.
 Work out the area of the shape.

..... cm²
(Total 4 marks)

24. Stephen imports cars from the USA. He sells them in the UK.

He has just bought a car in the USA costing \$24 000.
It cost him £900 to import the car to the UK.

The exchange rate is £1 = \$1.45

Stephen needs to make a profit of 20% on his total costs.

Work out the least amount that Stephen must sell the car for in the UK.
Give your answer in pounds.

£

(Total 3 marks)

25. People have different reaction times when using either their left hand or their right hand. Melissa wants to investigate this.

Melissa selects a number of students from her class to use as a sample for this investigation.

(a) Give one reason why this is not a good way of taking a sample.

.....
.....
.....

(1)

(b) Describe a better way of taking a sample that Melissa could use.

.....
.....
.....

(1)

(Total 2 marks)



TOTAL FOR PAPER: 100 MARKS

END

Question		Working	Answer	Mark	Notes
1(a) (i)			10	3	B1 cao
(ii)			13		B1 cao
1(b)			1½ blocks 1¼ blocks		B1 cao B1 cao
2(a)			17.8	1	B1 cao
2(b)			-2	1	B1 cao
2(c)			2.8	1	B1 cao
3(a)			One thousand three hundred and twenty six pounds	1	B1 cao
3(b)			504.47 2600	1 1	B1 cao B1 cao
4(a)			8	1	B1 cao
4(b)			7.5	2	M1 for ordering the 12 marks A1 for 7.5
4(c)				4	M1 for 9 – 5 A1 cao
5(a)			97	1	B1 cao
5(b)			London & Reading	1	B1 cao
5(c)		41 + 57 + 58	156	3	B1 for 2/3 correct distances M1 for 41 + 57 + 58 A1 cao

Question		Working	Answer	Mark	Notes
6(a)			C and G	2	B1 for C and G
6 (b)			A and E B and D	2	B1 for A and E B2 for B and D (B1 for B or D)
7(a)			Kg	3	B1 cao
7(b)			Litre		B1 cao
7(c)			Inch		B1 cao
			40	1	B1 cao
			1500	1	B1 cao
8		$1 - 0.995 = 0.005$ $0.005 \times 10\,000$	1H, 2H, 3H, 4H, 5H, 1T, 2T, 3T, 4T, 5T	2	B2 for all 10 outcomes (B1 for at least 5 correct outcomes)
9(a)			Wednesday	2	B1 cao
9(b)		$30 + 50 + 70 + 170$	Friday 320	2	B1 cao M1 for $30 + 50 + 70 + 170$ A1 cao
10(a)			Acute	1	B1 cao
10(b)			Reflex	1	B1 cao
10(c)			$120 + 230 \neq 360$	1	B1 cao
10(d)(i)		$180 - 50$	130	3	M1 for $180 - 50$ A1 cao
(ii)			Sum of the angles on a straight line = 180		B1 for a correct reason

Question	Working	Answer	Mark	Notes
11(a)	$20 \div 5$	4	1	B1 cao
11(b)	$3 + 6$	9	1	B1 cao
11(c)	7×3	21	1	B1 cao
12	$4x - 13 = 47$ $4x = 60$	5	3	M1 for $4x - 13 = 47$ oe M1 for $4x = 60$ oe A1 cao
13(a)(i) (ii)		23 Times by 2, then take 1	2	B1 cao B1 for a correct method
13(b)		even	1	B1 cao
13(c)(i) (ii)		pattern 62	3	B1 for a correct pattern M1 for $20 \times 3 + 2$ oe A1 cao
14(a)	$100 - 23 - 35 - 10$	32	2	M1 for $100 - 23 - 35 - 10$ A1 cao
14(b)	$20 \div 10 = 2$ pens /% 35×2	70	2	M1 for $20 \div 10 = 2$ pens /% M1 for $35 \times '2'$ A1 cao
*15	LCM of 6, 8 and 12 is 24 $08\ 00 + 24$	08 00 on the following day	3	M1 for trying to find the LCM oe A1 for 24 C1 for 08 00 on the following day [Note: 08 00 only is not enough for the C mark]

Question	Working	Answer	Mark	Notes
16	$95 \times 35 \times 30 = 99750$ $65 \times 35 \times 45 = 102375$	B holds the most water since $102375 > 99750$	3	M1 for $95 \times 35 \times 30 (= 99750)$ or $65 \times 35 \times 45 (= 102375)$ A1 for both volumes correct C1 ft for a correct comparison of their volumes
*17	$242 \times 0.88 = 275$ $275 - 242$	32	3	M1 for considering $3 \times k$ where k is a multiple of 5 or for considering $5 \times k$ where k is a multiple of 3, oe A1 for a correct combination where the cost totals 100 C1 for $30 \text{ basic} + 2 \text{ scientific} = 32$ calculators
18(a)	$840 \times 60/100$	504	32	M1 for $840 \times 60/100$ A1 cao
18(b)	$100 \times 480/600 = 80\%$	15 – 21	3	M1 for $100 \times 480/600$ A1 for 80 A1 ft for $15 - 21$
19(a)(i)		Vertical line through (3, 0)	3	B1 cao
(ii)		Horizontal line through (0, -1)		B1 cao
(iii)		Line through (0,0), (1,), (2,2), etc.		B1 cao
19(b)			3	B3 for a line from (-1, -5) to (4, 5) (B2 for a line through (0, -3) of grad 2 or for at least 5 correctly plotted points. B1 for any single line: through (0, -3) or grad 2, or for two correctly plotted points or a table of values with at least 3 correct y-entries)

Question	Working	Answer	Mark	Notes
20	$2x + 10 = 17 - 3x$ $2x + 3x = 17 - 10$ $5x = 7$	7/5 oe	5	B1 for $2x + 10$ seen M1 for $2x + 3x = 17 - 10$ A1 for 7/5 oe
*21	$80 \times 2.5 = 200$ not enough flour $60 \times 2.5 = 150$ almonds ok $90 \times 2.5 = 225$ sugar ok $60 \times 2.5 = 150$ butter ok $4 \times 2.5 = 10$ not enough pears	More flour and pears needed	4	M1 for use of 2.5 oe A2 for answers of 200,150, 225, 150, 10 (A1 for any one answer) C1 ft for identifying the need for more flour and pears backed up from their results.
22	$14059 - 12967 = 1092$ $1092 \times 0.44 = 480.48$ $480.48 \div 12$	40.04	5	M1 for $14059 - 12967$ M1 for ' 1092 ' $\times 0.44$ oe M1 for ' 480.48 ' $\div 12$ M1 for correct conversion to pounds A1 cao
23	$\frac{1}{2} \times 5 \times 12 + 9 \times 8$	102	4	M1 for splitting into sensible shapes; triangles, rectangles or trapezia M1 for a correct method to find one of the composite shapes A2 cao (A1 for one correct area)
24	$24000 \div 1.45 = \text{£}16551.72$ $+ \text{£}900 = \text{£}17451.72 = \text{total costs}$ $\text{£}17451.72 \times 1.20$	20 942.07	3	M1 for $24000 \div 1.45$ M1 for (' $\text{£}16551.72$ ' + $\text{£}900$) $\times 1.20$ A1 cao

Question	Working	Answer	Mark	Notes
25(a)	$3x + 6 = 4$ $3x = -2$	$-2/3$	2	M1 for $3x + 6 = 4$ A1 for $-2/3$ oe
25(b)	$3x/2 = 12$ $3x = 24$	8	3	M1 for $3x/2 = 12$ or $3x - 10 = 14$ M1 for $3x = 24$ A1 cao

