OCR
RECOGNISING ACHIEVEMENT

Oxford Cambridge and RSA Examinations

General Certificate of Secondary Education

MATHEMATICS B (MEI)
PAPER 1 SECTION B
FOUNDATION TIER

1968/2311B

Specimen Paper 2003

Additional materials: Electronic calculator
Geometrical instruments
Tracing paper (optional)

Candidates answer on the question paper.

TIME 45 minutes.

Candidate Name	Centre Number	Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name in the space above.
- Write your Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, in the spaces provided on the question paper.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Show all your working. Marks may be given for working which shows that you know how to solve the problem, even if you get the answer wrong.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [ ] at the end of each question or part question.
- You are expected to use an electronic calculator for this paper.
- Unless otherwise instructed in the question, take π to be 3.142 or use the π button on your calculator.
- Section B begins with question 12.

For Examiner's Use Only	
Section B	
TOTAL	

Area of trapezium = $\frac{1}{2}(a+b)h$
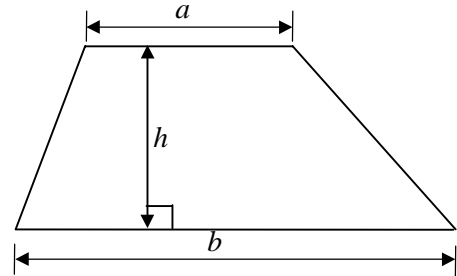
12 Write these decimals in order of size, smallest first.

$$0 \cdot 7 \qquad 0 \cdot 75 \qquad 0 \cdot 705 \qquad 0 \cdot 075$$

Answer _____ [2]

13 Catherine has bought some items at the DIY store.
Part of her bill is shown below.
Complete the cost column.

		Cost
4 Tins of White Paint	@ **£11.95 each**	£ _____
2 Tins of Red Paint	@ **£15.99 each**	£ _____
	Total	£ _____

[3]

14 Write down the metric unit that you would use to measure

(a) the amount of butter in a pack,

Answer *(a)* _____ [1]

(b) the length of a needle,

Answer *(b)* _____ [1]

(c) the weight of a lorry.

Answer *(c)* _____ [1]

15 Richard asks each of eight friends how many cars their family owns.
His results are shown below.

$$1 \quad 0 \quad 3 \quad 4 \quad 3 \quad 1 \quad 3 \quad 2$$
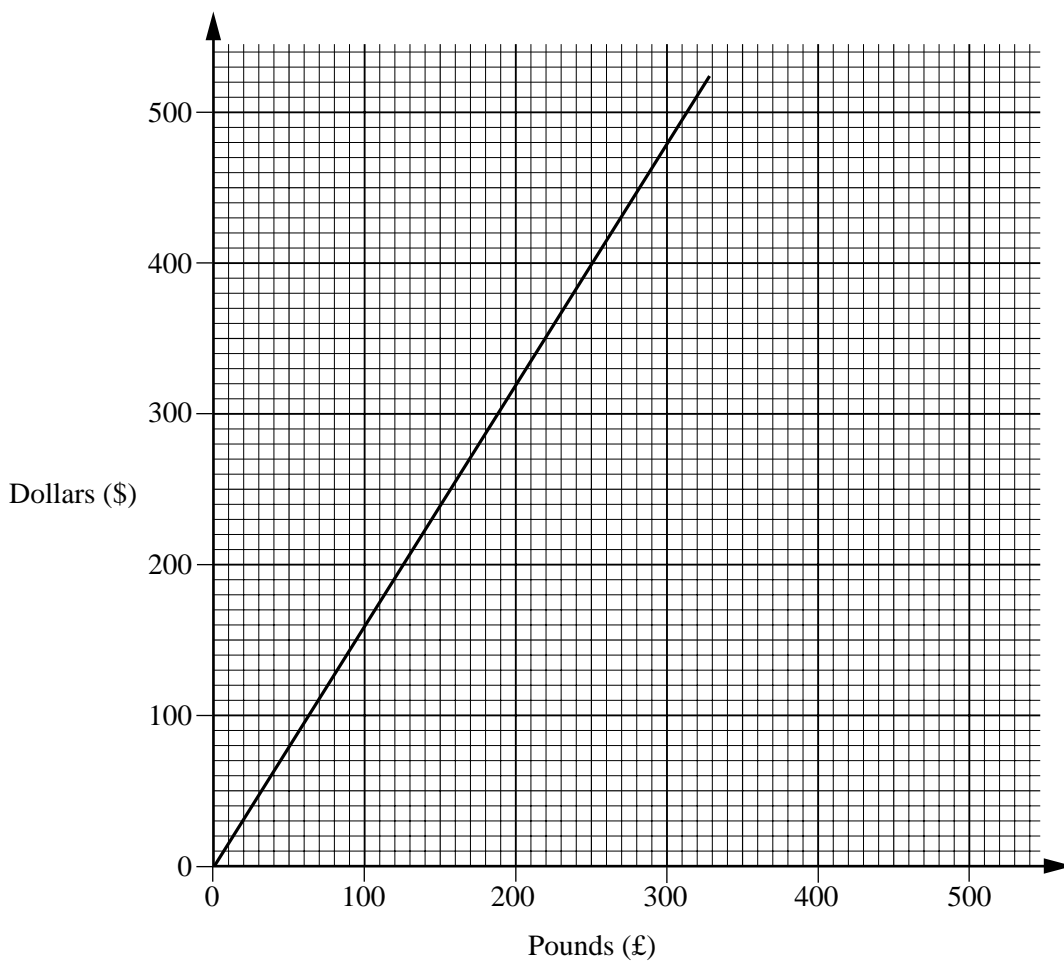
(a) Write down the mode.

Answer *(a)* _____ [1]

(b) Find the median number of cars.

Answer *(b)* _____ [2]

(c) Work out the mean number of cars in the eight families.

Answer *(c)* _____ [2]

16 James goes to America.
He uses this graph to convert between Dollars($) and Pounds(£).

(a) The price of a coach trip is $400.
Find its price in Pounds.

Answer   (a) £ _____   [1]

(b) He changes £300 into Dollars.
How many Dollars does he get?

Answer   (b) _____ Dollars   [1]

17 Anita makes shirts in a factory.
This formula is used to calculate her weekly wage.

$$w = 2s + 15$$

s is the number of shirts she makes
w is her weekly wage in pounds

(a) One week she makes 80 shirts.
Work out her weekly wage.

Answer *(a)* £ _____ [1]

(b) Her wage one week was £143.
How many shirts did she make that week?

Answer *(b)* _____ [2]

18 Charlotte is a farmer.
She makes rectangular enclosures.
She uses one metre lengths of fencing.
The diagram shows a 3m by 2m enclosure.

Explain why any rectangular enclosure Charlotte makes will need an even number of lengths of fencing.

Answer _____

_____

_____ [2]

19 Ben is making a chocolate cake.

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CHOCOLATE CAKE

250g flour      35g cocoa
100g butter     250g sugar
2 eggs          175ml milk

       Serves 8 people.
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(a) Find the ratio of cocoa to flour.
Give your answer in its lowest terms.

Answer *(a)* _____ [2]

Ben is making a chocolate cake for 12 people.

(b) How many grams of butter does he need?

Answer *(b)* _____ grams [1]

20 Match each of the algebra expressions on the left with the one that is the same from the right.
One has been done for you.

y+y	**2y+y**
5y-y	**y²**
y+2y	**2y**
y÷2	$\frac{y}{2}$
y×y	**4y**

[3]

21 **(a)** Emilie is a shopkeeper.
She has 8 boxes containing tins of beans.
Each box has 12 tins in it.
Each tin is priced at £0.29.
She sells all the tins.
How much money does she receive?

Answer *(a)* £ _____ [2]

(b) The diagram shows 12 tins in a box.
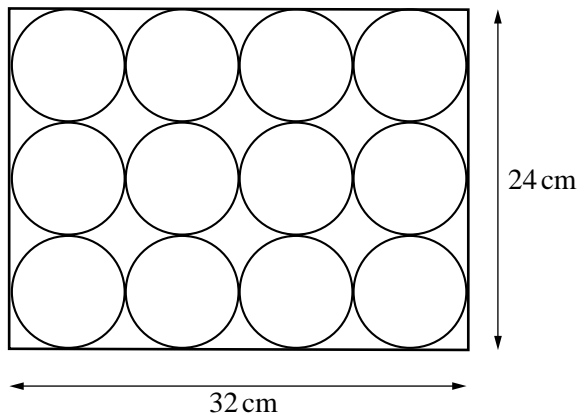
Work out the circumference of one tin.
Use the value of π on your calculator.
Give your answer to a sensible degree of accuracy.

Answer *(b)* _____ [4]

22   The school play is seen by 208 people.
One eighth of them had free seats.
The rest of them paid £2.25 each.
How much did they pay in total?

Answer   £ _____   [4]

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MARK SCHEME

Specimen Paper 2003

SECTION B

12		0.075, 0.7, 0.705, 0.75	B2	(B1 for any 3 correct)
13		£47.80	B1	
		£31.98	B1	
		£79.78	B1	
14	**(a)**	grams or kilograms	B1	
	(b)	mm or cm	B1	
	(c)	tonnes (do not accept tons)	B1	
15	**(a)**	3	B1	
	(b)	2.5	B2	(B1 for ordering)
	(c)	2.125	B2	(B1 for 17/8)
16	**(a)**	250	B1	
	(b)	480	B1	
17	**(a)**	175	B1	
	(b)	64	B2	(B1 for 128)
18		Perimeter is 2(L + W)	B2	(B1 for perimeter)
		which is twice a whole number and therefore even		
19	**(a)**	35 : 250	M1	
		7 : 50	A1	(B1 for 50 : 7)
	(b)	150	B1	
20		Correct matchings	B3	(B2 for 2, B1 for 1)
21	**(a)**	8 x 12 x 0.29	M1	(B1 for 96 tins or £3.48)
		27.84	A1	
	(b)	finding diameter or radius	M1	
		$2 \times \pi \times 4$	M1	(allow f/t)
		25.1 …	A1	(allow f/t)
		25.1	B1	
22		208 / 8	M1	
		206 – 26	M1	(allow f/t)
		182×2.25	M1	(allow f/t)
		409.50	A1	(do not accept 409.5)

Paper: 2311			Year:2003 Specimen					Target grades					UAM marks					
Qn	NC Ref	Topic/Context	Nu	Man Alg	Non Mal Alg	SS	HD	G	F	E	D	M/S	PS	C	R	Notes F/I	I/H
1	2.2	Integers	2					2									
2	2.2	Fractions	3					3									
3	2.2	Integers, powers & roots	4					2	1	1					1		
4	3.4	Mensuration				4		1	3								
5	2.2	Percentages	2						2								
6	2.5	Graphs of linear functions			3			1	2								
7	3.4	Mensuration				2				2						2	
8	3.4	Mensuration				5		2			3					3	
9	4.2	Specifying the problem and planning					6	2			4					4	
10	2.6	Interpret graphical information			3					3				3			
11	2.5	Linear equations		2					2								
12	2.2	Decimals	2					2									
13	2.3	Written methods	3					3									
14	3.4	Measures				3		3									
15	4.4	Processing and representing data					5	3	2								
16	2.6	Interpret graphical information			2				2								
17	2.5	Formulae		3					1	2							
18	2.1	Reasoning			2				2						2		
19	2.2	Ratio	3								3					3	
20	2.5	Use of symbols		3					3								
21	2.3, 2.4	Written methods Mensuration	2			4		2			4	3					
22	2.3	Written methods	4								4	4	3			4	
		Total	25	8	10	18	11	26	20	12	14	7	3	3	3	16	