Mathematics C (Graduated Assessment)   1966/2333A
MODULE M3 – SECTION A

Specimen Paper 2003

Candidates answer on the question paper.

Additional materials:

Geometrical Instruments
Tracing Paper (optional)

TIME 30 minutes

Candidate Name	Centre Number	Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name, 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.
- There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.

INFORMATION FOR CANDIDATES

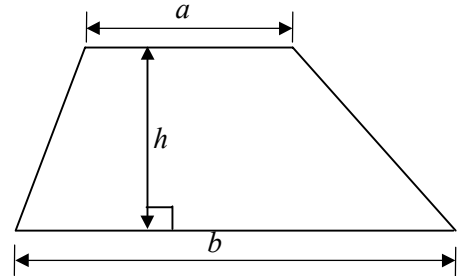- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 25.

For Examiners Use	
Section A	
Section B	
Total	

WARNING
You are not allowed to use a
calculator in Section A of this paper

FORMULA SHEET: FOUNDATION TIER

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

1 These are the midnight temperatures, in degrees Celsius, in Newport for five days in February.

Monday	Tuesday	Wednesday	Thursday	Friday
0	−4	3	−1	2

(a) Write the temperatures in order, lowest first.

_____ [1]

(b) The temperature on Saturday was 5 degrees colder than Friday.

What was the temperature on Saturday?

(b) _____°C [1]

(c) By how many degrees was Thursday colder than Wednesday?

(c) _____degrees [1]

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3
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2 Alan works out

$$618 \div 100.$$

(a) Which of these answers is correct?
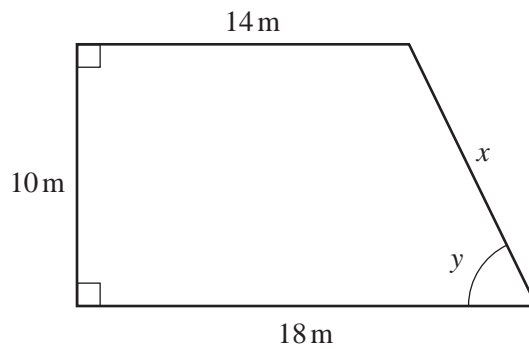
0·618   61800   0·00618   6·18   0·0618   61·8

(a) _____ [1]

(b) Explain how you decided.

_____

_____

_____ [1]

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2
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3 This is a sketch of Sandra's garden.

14 m

10 m

x

Not drawn accurately

y

18 m

(a) Make a scale drawing of this garden.
Use a scale of 1 cm to 2 m.

[2]

(b) What is the **real** length, in metres, of the side labelled *x*.

(b) ＿＿＿＿＿＿＿＿＿m [2]

(c) Use **your** drawing to measure the size of angle *y*.

(c) ＿＿＿＿＿＿＿＿＿° [1]

5

4 This table shows some fractions and their decimal equivalents.

Complete the table by filling in the gaps.

Fraction	Decimal
$\dfrac{1}{4}$	0·25
$\dfrac{2}{5}$	0·4
$\dfrac{1}{10}$	
	0·5

[2]

2

5 Charles has ten marbles in a bag.
There are 2 white, 3 red and 5 green.
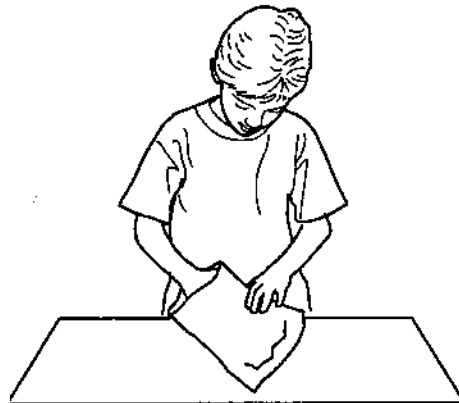
He takes a marble without looking.

(a) On the line below, mark the probability that Charles chooses a green marble.

0   1

[1]

(b) What is the probability that Charles chooses a red marble?

(b) _____ [1]

2

6 **(a)** A petrol station charges 81·9p for 1 litre of petrol.

Complete this table.

Number of litres	Cost in pence
1	81·9
2	163·8
3	245·7
4	
5	
10	

[3]

(b) A car travelled 116·8km on 8 litres of petrol.

How far would it travel on 1 litre?

(b) _____ km [2]

5

7 **(a)** Peggy earns £640 per week.
She spends 25% on rent.

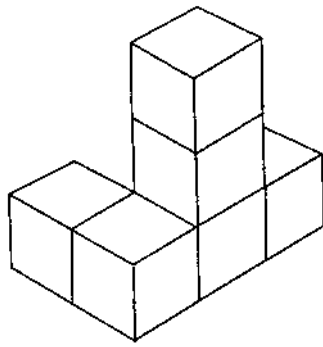How much does she spend on rent?

(a) £ _____ [2]

(b) Last year Helen paid £400 in Council Tax.
This year her tax has increased by 15%.
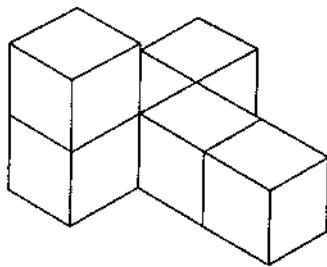
Work out 15% of £400.

(b) £ _____ [2]
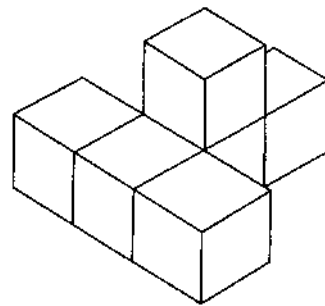
4

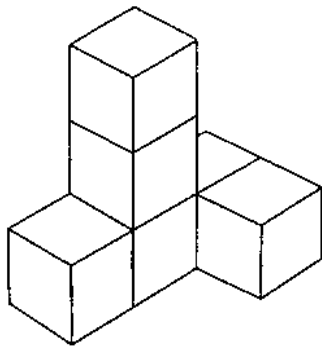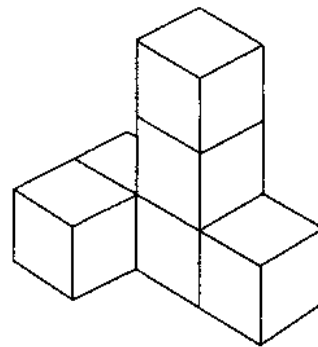**8**   This object is made from 6 cubes.

Which of the diagrams below also show this object?
Write **Yes** or **No** under each diagram.

_____   _____

_____   _____

[2]

2

Oxford Cambridge and RSA Examinations

General Certificate of Secondary Education

Mathematics C (Graduated Assessment)   **1966/2333B**
MODULE M3 – SECTION B

Specimen Paper 2003

Candidates answer on the question paper.

Additional materials:

Geometrical Instruments
Tracing Paper (optional)
Electronic Calculator

TIME 30 minutes

Candidate Name	Centre Number	Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name, 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.
- There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.

INFORMATION FOR CANDIDATES

- You are expected to use a calculator in Section B of this paper
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 25.

For Examiners Use	
Section B	

Area of trapezium $= \frac{1}{2}(a + b)h$
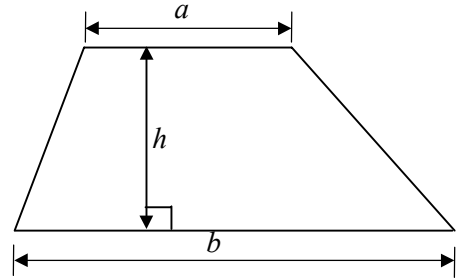
9   Howard uses this recipe to make pancakes.

> 120g   flour
> 250ml   milk
>   2   large eggs
> pinch of salt

(a)   Howard opens a 2 litre carton of milk.

How much milk is left after the pancakes are made?

(a) _____ [2]

(b)   He opens a 1kg bag of flour.

How much flour is left after the pancakes are made?

(b) _____ [2]

4	

10   Work out

$$4 \times (3 \cdot 47 + 2 \cdot 19 - 1 \cdot 16).$$

_____ [2]

2	

11 This graph converts between pounds and Swiss francs.
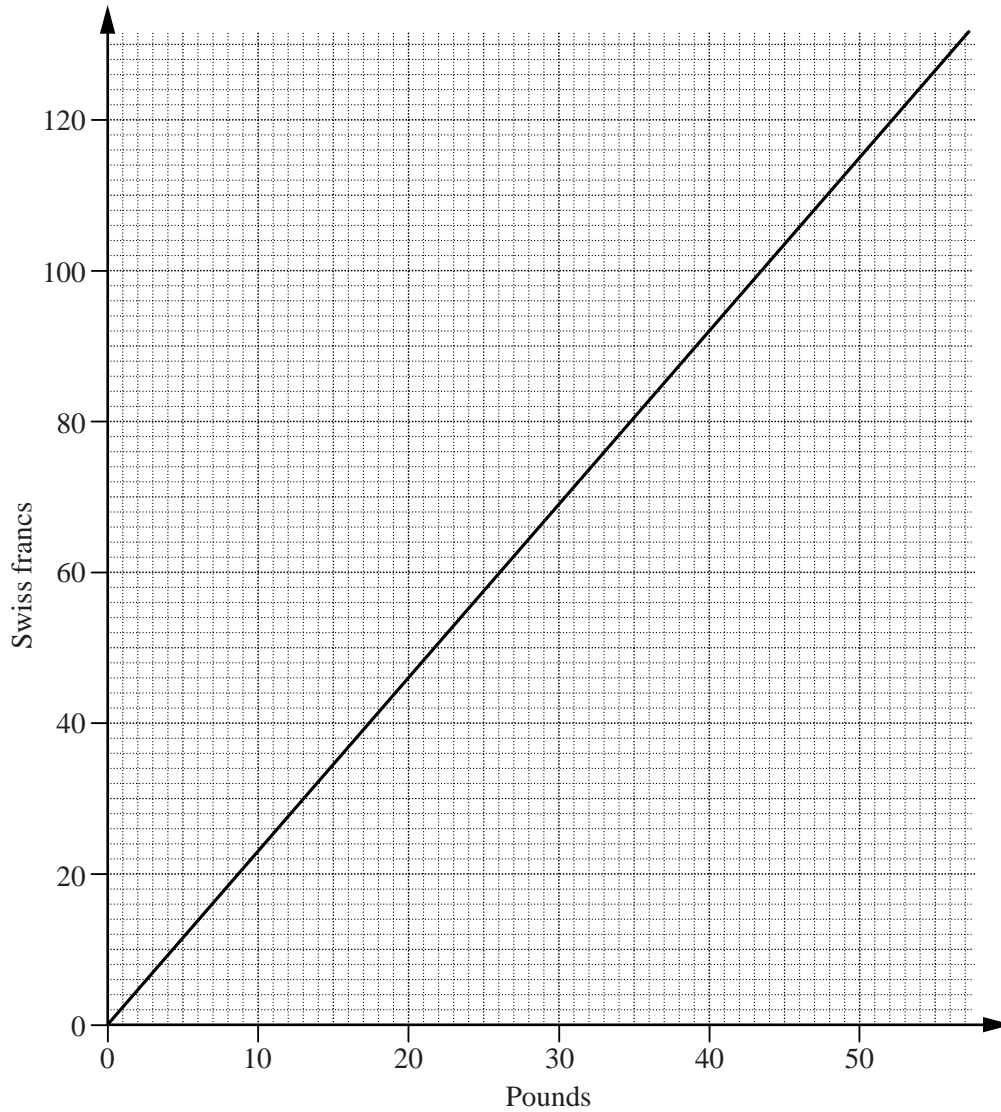
(a) Before travelling to Geneva, Jo changed £30 into Swiss francs.

How many francs did she get?

(a) _____ francs [1]

(b) Use the graph to help you convert £200 into Swiss francs.

(b) _____ francs [2]

3

12 This is a sketch of an office floor.

12·4 m

7·5 m
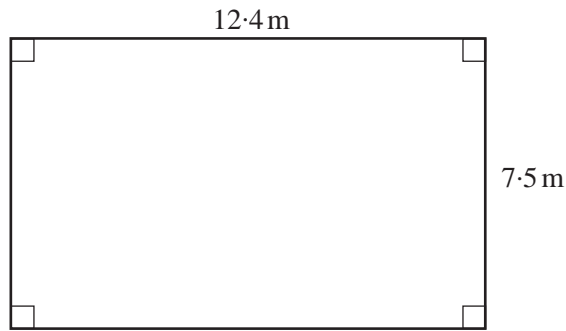
Not drawn accurately

(a) Work out the area of the office floor.

(a) _____ [2]

(b) Work out the perimeter of the office floor.

(b) _____ m [2]

4	
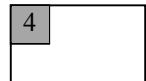
13 Solve these equations.

(a) $5x = 35$

(a) $x =$ _____ [1]

(b) $x - 19 = 4$

(b) $x =$ _____ [1]

2	
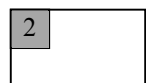
14 Twenty members of an athletics club took part in a sponsored run.
The number of laps completed by each runner is shown below.

28	16	23	32	17	23	21	25	30	13
16	24	19	30	23	31	24	29	16	23

(a) Complete this frequency table.

Number of laps	Tally	Frequency
11 - 15		
16 - 20		
21 - 25		
26 - 30		
31 - 35		

[2]

(b) Draw a bar chart to represent this information.
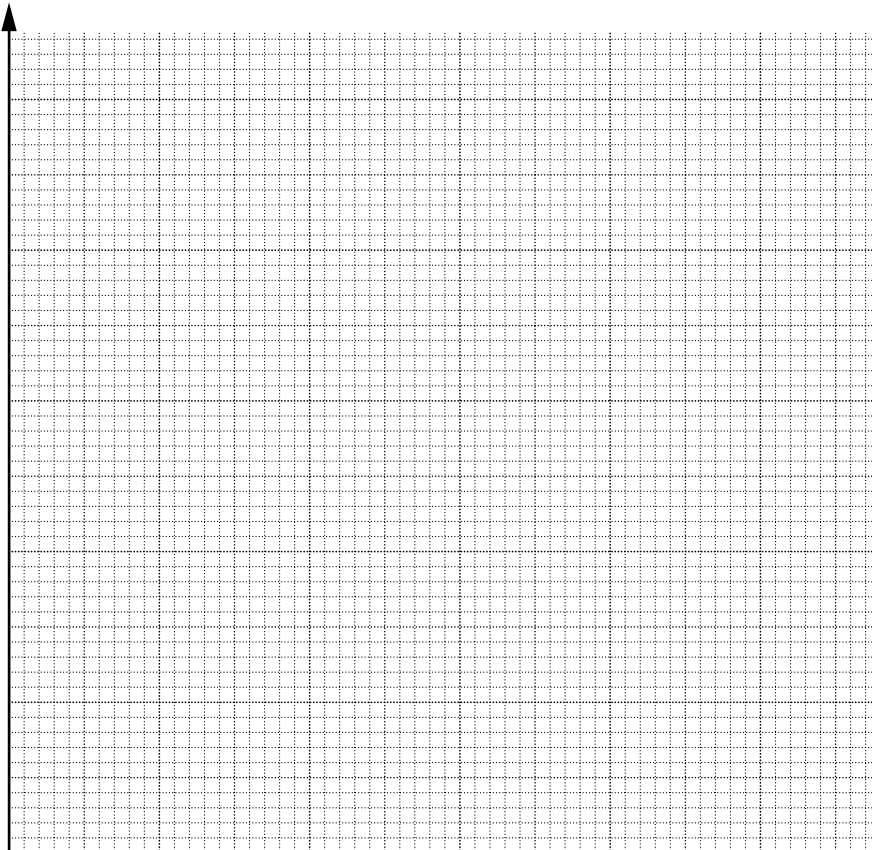
[3]

5

15 *Trafford Waste Disposal* uses this formula to work out the charge, in pounds, for removing waste products.

Multiply the number of tonnes of waste by 10, then add 100.

(a) Use the formula to work out the charge for removing 8 tonnes of waste.

(a) £ _____ [1]

(b) Another firm, *Kelsall Refuse*, uses this formula.

$$C = 12T + 75$$

C is the charge in pounds,
T is the number of tonnes of waste.

Alec wants 16 tonnes of waste removed.
He can choose between *Trafford Waste Disposal* and *Kelsall Refuse*.

Which firm is cheaper and by how much?
Show your working.

(b) _____ is cheaper by £ _____ [4]

5

Oxford Cambridge and RSA Examinations

General Certificate of Secondary Education

Mathematics C (Graduated Assessment)   1966/2333
MODULE M3

MARK SCHEME

Specimen Paper 2003

1	**(a)**	-4, -1, 0, 2, 3	W 1	
	(b)	-3	W 1	
	(c)	4	W 1	
			[3]	

2	**(a)**	6·18	W 1	
	(b)	Move digits 2 places to the right	W 1	
			[2]	

3	**(a)**	All known sides (5, 7, 9)	W 1	
		Completed diagram	W 1	
	(b)	10·6 – 11·0	W 2	M1 ($x =$) 5·4 ± 0·1cm f.t. their diagram
	(c)	68 ± 2°	W 1	
			[5]	

4		0·1	W 1	
		$\dfrac{1}{2}$	W 1	
			[2]	

5	**(a)**	mark 4-6cm from 0	W 1	
	(b)	$\dfrac{3}{10}$	W 1	
			[2]	

6	**(a)**	327·6	W 1	
		409·5	W 1	
		819	W 1	
	(b)	14·6	W 2	M1 ÷ by 8
			[5]	

7	**(a)**	160	W 2	M1 ÷ by 4
	(b)	60	W 2	M1 10% of 400 = 40
			[4]	

8		Yes, No, Yes, No	W 2	W 1 3 correct
			[2]	

Total mark for Section A: 25

SECTION B

9	**(a)**	1·75(0)	W 2	M1 2 – 0·250 or 2000 – 250 or 1750 seen
	(b)	880g	W 2	M1 1000 – 120 or 1 – 0·120 or 0·88 seen
			[4]	

10		16.24	W 2	M1 4.06 seen
			[2]	

11	**(a)**	68 - 70	W 1	
	(b)	450 – 470	W 2	M1 use of e.g. £20 = 46 francs
			[3]	

12	**(a)**	93m^2	W 2	W1 93
	(b)	39.8 (m)	W 2	M1 12.4 + 7.5 +12.4 + 7.5
			[4]	

13	**(a)**	7	W1	
	(b)	23	W 1	
			[2]	

14	**(a)**	1, 5, 8, 4, 2	W 2	W 1 all tallies correct or three frequencies correct
	(b)	Axes scaled	W1	
		Axes labelled	W1	
		Bars correct	W1	
			[5]	

15	**(a)**	180	W 1	
	(b)	Trafford by £7	W4	M1 192 A1 267
				M1 260 A1 7
			[5]	

Total mark for Section B: 25

Total mark available: 50

MODULE: M3

				18	0	10	14	7	3	2	2	4				Grades		
Question	Topic	Syll Ref	Mod Ref	N	Man A	nMan A	SSM	HD	UA1	UA2	UA3	Multi-s	Units	Acc		G	F	E
1	Temperature	F2/2a,3a	N3.1	3												1	2	
2	Division of decimals	F2/3a/1h	N3.3	2							1						2	
3	Scale drawing	F3/3d,4d	S3.2, S3.6				5										5	
4	Fractions/Decimals	F2/3g	N3.6	2												2		
5	Probability	F4/4d	D3.1					2									2	
6	Decimal mult'n	F2/3a,3l	N3.2	5													5	
7	Percentage	F2/2e,3e	N2.4, N3.5	4													4	
8	3-D	F3/2k	S3.5				2										2	
	Section A totals			**16**			**7**	**2**			**1**					**3**	**22**	
9	Units	F3/4a	S2.2, S3.3				4										4	
10	Fractions	F2/3b	N3.7	2													2	
11	Conversions	F2/6c,1b,1k	A3.3			3			1		1						3	
12	Area/Perimeter	F3/4f,4d	S1.3, S3.4				4						1				4	
13	Equations	F2/5e	A3.1		2												2	
14	Frequency	F4/4a,1f	D3.3					5		2						5		
15	Formulas	F2/5f	A3.2			5			3			4					5	
	Section B totals			**2**	**2**	**8**	**8**	**5**	**4**	**2**	**1**	**4**	**1**			**5**	**20**	
	Total			**18**	**2**	**8**	**15**	**7**	**4**	**2**	**2**	**4**	**1**			**8**	**42**	