SPECIMEN

OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C

MODULE M5 – SECTION A

SPECIMEN

B275/A

Candidates answer on the question paper.

Additional Materials:
    Geometrical instruments
    Tracing paper (optional)
    Pie chart scale (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.
* Use blue or black ink. Pencil may be used for graphs and diagrams only.
* Read each question carefully and make sure you know what you have to do before starting your answer.
* In many questions marks will be given for a correct method even if the answer is incorrect.
* Do **not** write in the bar code.
* Do **not** write outside the box bordering each page.
* WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

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.

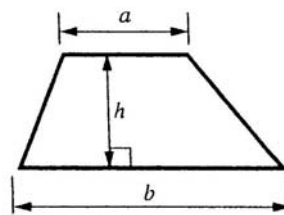**WARNING** You are not allowed to use a calculator in this paper.
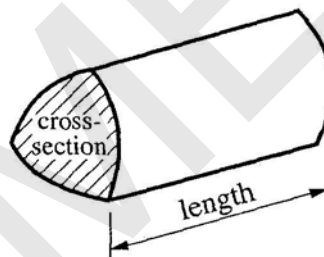
For Examiner's Use

Section A

     [Turn over

FORMULAE SHEET

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

Volume of prism = (area of cross-section) x length

1 **(a)** Jade buys 41 litres of petrol.
Each litre costs 82·9p.

Write down a calculation she could do in her head to estimate the total cost.
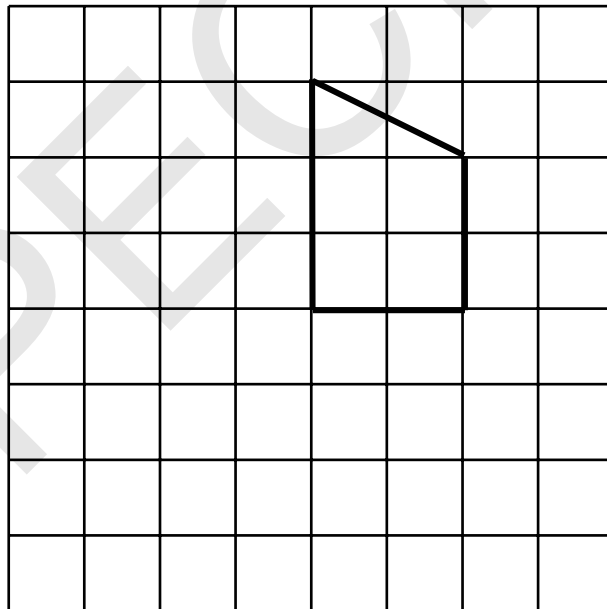
_____   = £ _____ [2]

(b) Is your estimate bigger or smaller than the exact cost?

Explain how you decide.

-- [1]

<table><tr><td>3</td><td></td></tr></table>

2 Complete this diagram so that it has rotational symmetry of order 4.

[2]

<table><tr><td>2</td><td></td></tr></table>

[Turn over

3   Complete this multiplication grid.
          Some of the numbers are negative.

X	2	....	....
-2	....	6	2
4	8	-12	-4
1	2	-3	-1

[3]

3

4 **(a)** Write this fraction in its simplest form.

$$\frac{24}{33}$$

(a) _____ [1]

(b) Work out.

$$\frac{1}{7} \times \frac{1}{2}$$

(b) _____ [1]

(c) In a class of 20 children, there are 11 girls.

What percentage of these children are girls?

(c) _____ % [2]

(d) $\boxed{\dfrac{14}{24} \text{ is bigger than } \dfrac{1}{2}.}$

Explain how you can tell that this statement is correct.

_____

[1]

_____

5

[Turn over

5 **(a)** Work out the value of $7y + 6$ when $y = 4$.

(a) _____ [2]

(b) Simplify.

    (i) $9a + 4a - 5a$

(b)(i) _____ [1]

    (ii) $9a + 4b - 5a + 2b$

(ii) _____ [2]

5	

6 Complete the 'Name of quadrilateral' column in the table below.

Choose the name of the quadrilateral from:

Rectangle   Kite   Square   Parallelogram   Rhombus

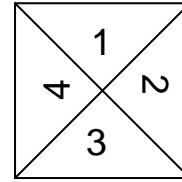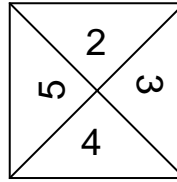| Four equal sides?	Four equal angles?	Diagonals always of equal length?	Diagonals cut each other at right-angles?	Name of quadrilateral
No	No	No	No	
Yes	Yes	Yes	Yes	
No	Yes	Yes	No	
No	No	No	Yes	

[4]

4

[Turn over

7 Luke plays a game with two fair spinners.

Spinner A is numbered 2, 3, 4, 5.
Spinner B is numbered 1, 2, 3, 4.

He spins both spinners.
His score is the sum of the two numbers.

(a) Complete the table below to show all his possible scores.

Spinner A

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

Spinner B

[2]

(b) What is the probability that Luke's score is 9?

(b) .... [1]

Section A Total [25]

3

Oxford Cambridge and RSA Examinations

General Certificate of Secondary Education

MATHEMATICS C B275/A

MODULE M5 – SECTION A

Specimen Mark Scheme

The maximum mark for this paper is 25.

1	(a)	40 x 80 = £32 *or* 41 x 80 = £32.80 *or* 41 x 83 = £32.20 *or* 41 x 85 = £34	**W2**		**M1**	40 x 80 *or* 41 x 80 *or* 41 x 83 *or* 40 x 85 *or* 40 x 90 = £36 *or* 40 x £1 = £40
	(b)	Smaller, both rounded down	**W1** **3**			f.t. *their* (i)
2		Drawing completed correctly	**W2** **2**		**W1**	for one rotation of shape drawn
3		- 4, - 3 and – 1	**W3** **3**			1 for each
4	(a)	$\dfrac{8}{11}$	**W1**			
	(b)	$\dfrac{1}{14}$	**W1**			
	(c)	55	**W2**		**M1**	for 1 child = 5% seen or implied
	(d)	$\dfrac{1}{2} = \dfrac{12}{24}$, so $\dfrac{14}{24}$ is bigger	**W1** **5**			Must see an equivalent fraction for comparison
5	(a)	34	**W2**		**W1**	sight of 28
	(b)(i)	8*a*	**W1**			
	(ii)	4*a* + 6*b*	**W2** **5**			

6		1 each for:- parallelogram square rectangle kite	**1** **1** **1** **1** **4**			
7	**(a)** **(b)**	12 correct values $\dfrac{1}{16}$	**W2** **W1** **3**		**W1**	9 values correct

Section A Total 25

Assessment Objectives Grid

Question	AO2	AO3	AO4	Total
1	3			**3**
2		2		**2**
3	3			**3**
4	5			**5**
5	5			**5**
6		4		**4**
7			3	**3**
Totals	**16**	**6**	**3**	**25**