

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B291A

MATHEMATICS B (MEI)

Paper 1 Section A (Foundation Tier)

TUESDAY 11 JANUARY 2011: Morning

DURATION: 45 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

Do not use a calculator for this paper.

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

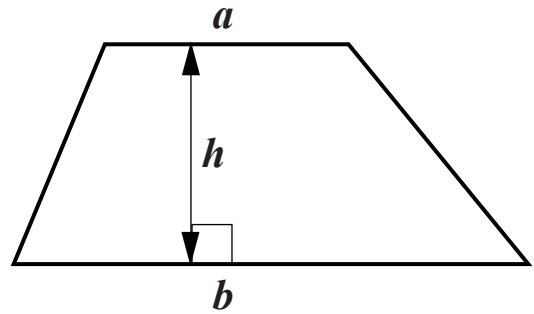
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Show all your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**
- **Answer ALL the questions.**

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 36**

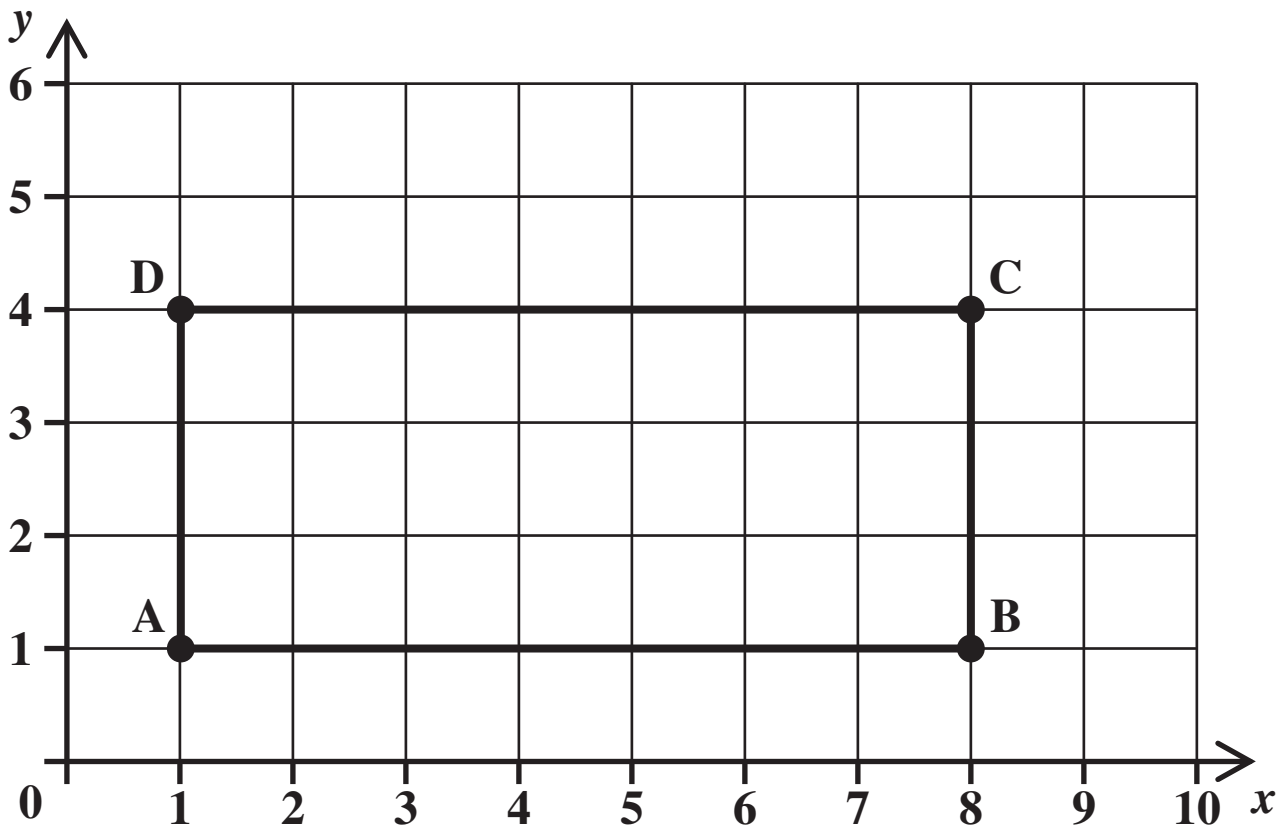
Formulae Sheet : Foundation Tier

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



Volume of prism = (area of cross-section) \times length

- 1 The diagram below shows a quadrilateral ABCD, drawn on a centimetre grid.



- (a) What type of quadrilateral is it? [1 mark]

- (b) What are the coordinates of the point C? [1 mark]

(_____ , _____)

- (c) Find the perimeter of the quadrilateral ABCD. [1 mark]

_____ cm

(d) Find the area of the quadrilateral ABCD. [1 mark]

_____ **cm²**

2 (a) Work out.

**(i) $530 - 245$
[2 marks]**

**(ii) 17×6
[1 mark]**

**(iii) $364 \div 7$
[1 mark]**

**(iv) $82 \cdot 3 + 3 \cdot 9$
[1 mark]**

(b) Look at the eight numbers below.

4 10 2 30 3 5 15 20

**What is the largest number you can make by
multiplying together two of the numbers shown above?
[1 mark]**

3 (a) (i) Draw a straight line 8.5 cm long [1 mark]

**(ii) Using a ruler and protractor draw an angle of 50°
A line has been drawn for you to use. [1 mark]**



- (iii) Using a ruler and protractor, draw an angle of 120°
A line has been drawn for you to use. [1 mark]**



(b) Explain what is meant by an obtuse angle. [2 marks]

An obtuse angle is _____

4 (a) Write each of the following decimals as a fraction.

(i) 0·7
[1 mark]

(ii) 0·127
[1 mark]

(b) Look at the four decimals below.

2·03 0·42 0·8 0·417

Write these decimals in order of size, starting with the smallest. [2 marks]

smallest

5 Two coins, a 50p and a 20p, are to be spun at the same time.

**Use the table below to show the possible outcomes.
One has been done for you. [2 marks]**

		20p	
		Head	Tail
50p	Head	____ , ____	H , T
	Tail	____ , ____	____ , ____

6 (a) Work out the following.

(i) $\sqrt{64}$
[1 mark]

(ii) 5^2
[1 mark]

(iii) 10^4
[1 mark]

(b) Explain how you work out the cube of 6
[1 mark]

7 Find the value of each of the following expressions when $a = 5$ and $b = -3$

(a) $4a^2$
[2 marks]

(b) $10a + 2b$
[2 marks]

8 For all whole number values of n , the following expressions can be described as

always odd

or always even

or either odd or even

For each expression, determine which one of the descriptions is correct. Give your reasons.

(a) $5n + 1$

The expression is _____

Reason: _____

[2 marks]

(b) $2(n + 1)$

The expression is _____

Reason: _____

[2 marks]

- 9 Peter has correctly worked out the sum below on his calculator, correct to 2 decimal places.

$$\frac{95.9}{0.81 \times 0.62} = 190.96$$

Jane does a rough check as follows.

$$\frac{95.9}{0.81 \times 0.62} \approx \frac{96}{1 \times 1} = 96$$

Jane tells Peter that his answer is too big.

However, Jane is wrong.

Carry out a more accurate approximation to demonstrate that the answer is close to 200

[3 marks]

END OF QUESTIONS

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