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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B291B

MATHEMATICS B (MEI)

**Paper 1 Section B
(Foundation Tier)**

MONDAY 18 MAY 2009: Afternoon

DURATION: 45 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Scientific or graphical calculator

Tracing paper (optional)

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

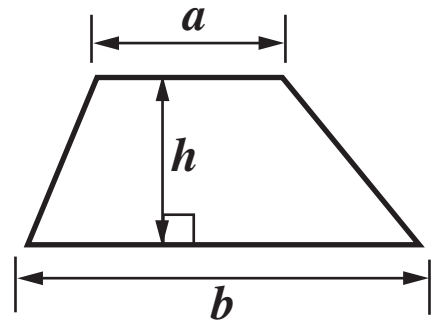
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show all your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer ALL the questions.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

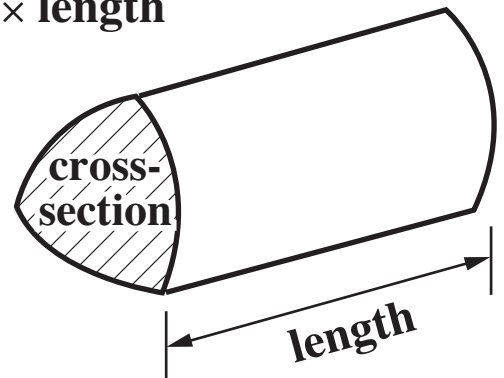
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 9.
- You are expected to use a calculator in Section B of this paper.
- Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is 36.

Formulae Sheet: Foundation Tier

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



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



PLEASE DO NOT WRITE ON THIS PAGE

- 9 (a) Write the number fifteen thousand and seventy three in figures.
[1 mark]**

(a) _____

- (b) Write the number 3205 in words.
[1 mark]**

- (c) Write 3821 correct to the nearest thousand.
[1 mark]**

(c) _____

- (d) The chart below shows a holiday price table.
All prices are in pounds.
For example, Holiday A costs £182 in May.**

	May	June	July	August
Holiday A	182	206	236	256
Holiday B	245	252	280	304
Holiday C	350	406	497	543
Holiday D	457	529	697	765

- (i) What is the price of Holiday C in June?
[1 mark]**

(d)(i) £ _____

- (ii) How much more does it cost to take Holiday D in August than in May?
[1 mark]**

(ii) £ _____

10 (a) Richard is getting some photographs put into digital form on a disc.

It costs 90p for a disc plus 33p for each photo.

(i) Fill in the gaps in the rule below for calculating the price in pence.

[1 mark]

Multiply number of photos by _____ then add _____ .

**(ii) How much does it cost for a disc of 40 photos?
Give your answer in pounds and pence.**

[2 marks]

(a)(ii) £ _____

(b) Richard bought 4 batteries costing 89p each.

How much change should he receive from £5.00?

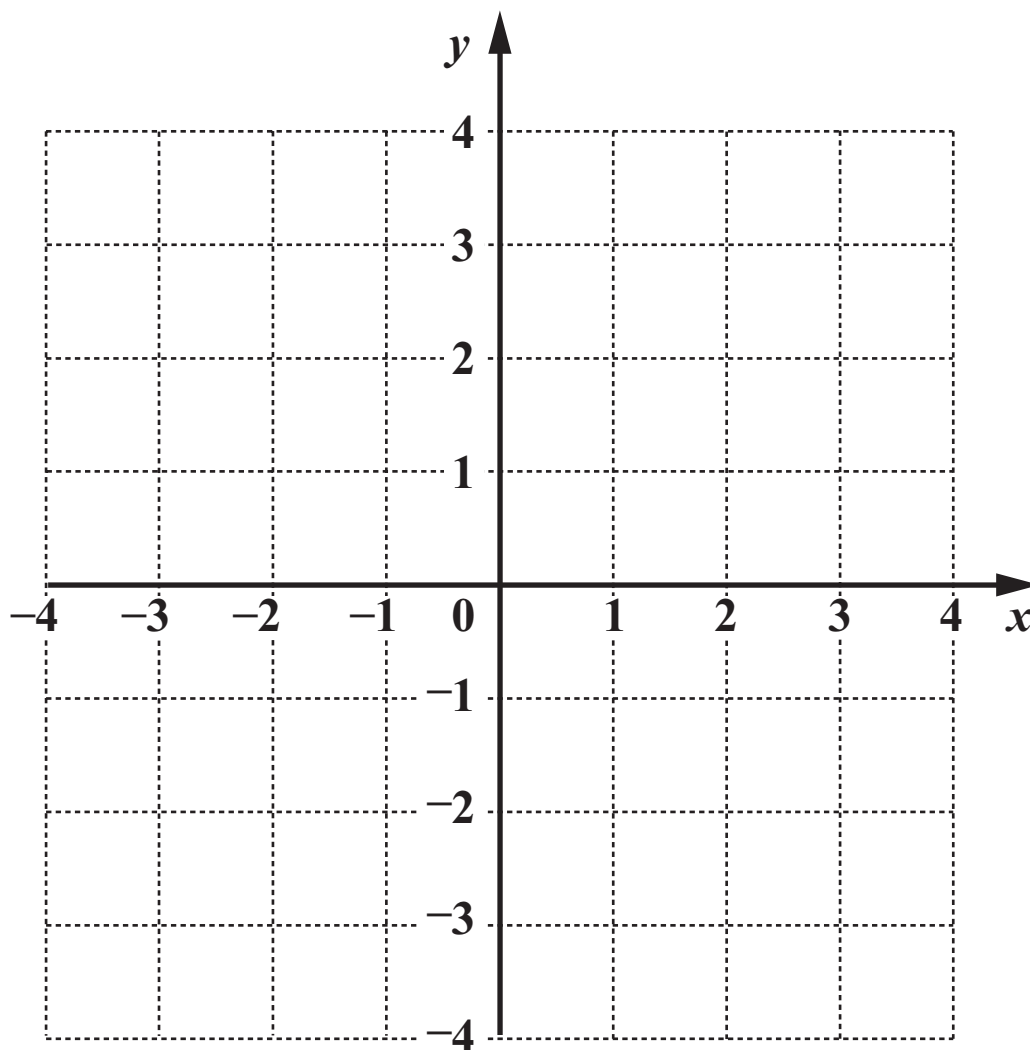
[2 marks]

(b) £ _____

11 Using the grid below, plot the points with these coordinates.

(a) (2, 1)
[1 mark]

(b) (0, 3)
[1 mark]



12 Lily made a list of the number of films showing at each of nine multi-screen cinemas.

7 6 10 11 8

9 10 8 10

(a) Find the mode, the median and the range for these numbers.

[4 marks]

(a) The mode is _____

The median is _____

The range is _____

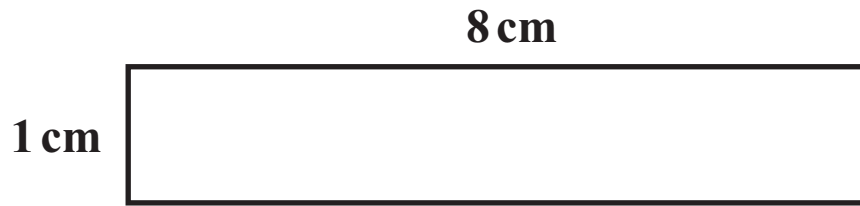
(b) Lily says that the mean of the numbers is 12

Without working out the mean, explain why she must be wrong.

[1 mark]

- 13 Simon correctly works out the perimeter and area of the two rectangles below.**

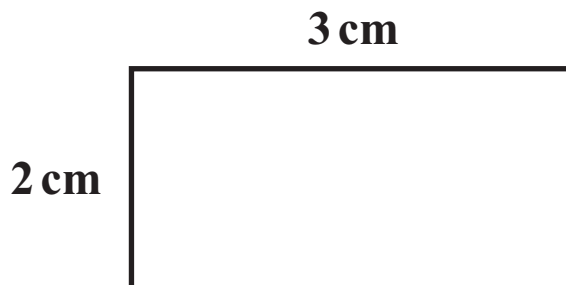
First rectangle



$$P = 1 + 8 + 1 + 8 = 18 \text{ cm}$$

$$A = 1 \times 8 = 8 \text{ cm}^2$$

Second rectangle



$$P = 2 + 3 + 2 + 3 = 10 \text{ cm}$$

$$A = 2 \times 3 = 6 \text{ cm}^2$$

He says that the perimeter of a rectangle is always a larger number than the area.

**Find a rectangle which shows that he is wrong.
Calculate the perimeter and area of your rectangle.
[4 marks]**

Rectangle _____ cm by _____ cm

P = _____ cm

A = _____ cm²

14 (a) Use your calculator to work these out.

(i) 8.3^3
[1 mark]

(a)(i) _____

(ii) $3.4^2 + \sqrt{5.76}$
[1 mark]

(ii) _____

(b) Emily invests £2500 for three years at 6% per year simple interest.

How much INTEREST will be earned?
[2 marks]

(b) £ _____

15 There are **190** students in a year group at a school. They all go on an outing by coach, accompanied by **12** teachers.

(a) Each coach can take **39** passengers.

How many coaches are needed to take all the students and teachers on the outing?
[3 marks]

(a) _____

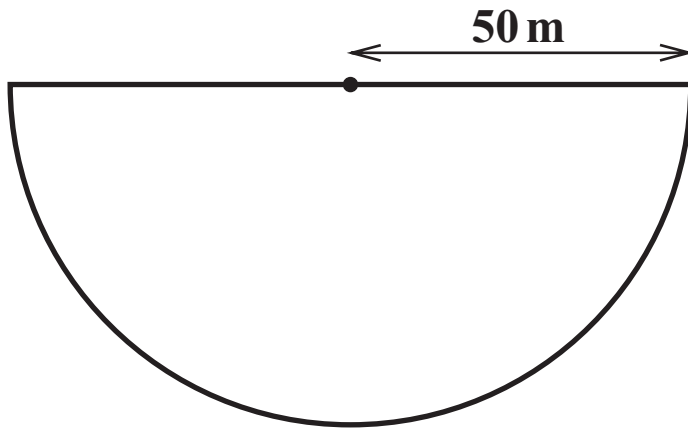
(b) Each coach costs **£350** to hire for the outing. The teachers do not pay anything.

How much should each student pay to just cover the cost of the coaches?
[3 marks]

(b) £ _____

16 The stage of a Roman theatre is a semicircle with radius 50 m.

A diagram of the semicircle is shown below.



(a) Work out the area of the stage.
[2 marks]

(a) _____ m²

(b) Work out the total perimeter of the stage.
[3 marks]

(b) _____ m

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