Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

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

DC (SM/SW) OV90773 10795

INSTRUCTIONS TO CANDIDATES

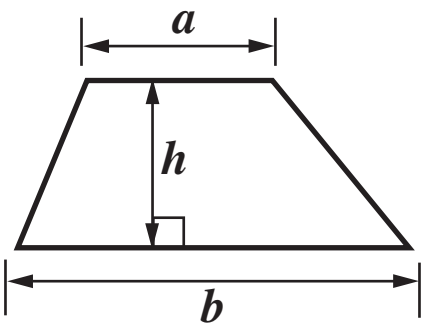
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **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

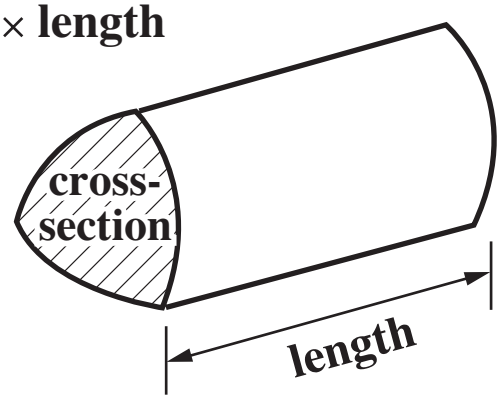
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **Section B starts with question 9.**
- **You are expected to use a calculator in Section B of this paper.**
- **Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.**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

Formulae Sheet: Foundation Tier

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



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



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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.

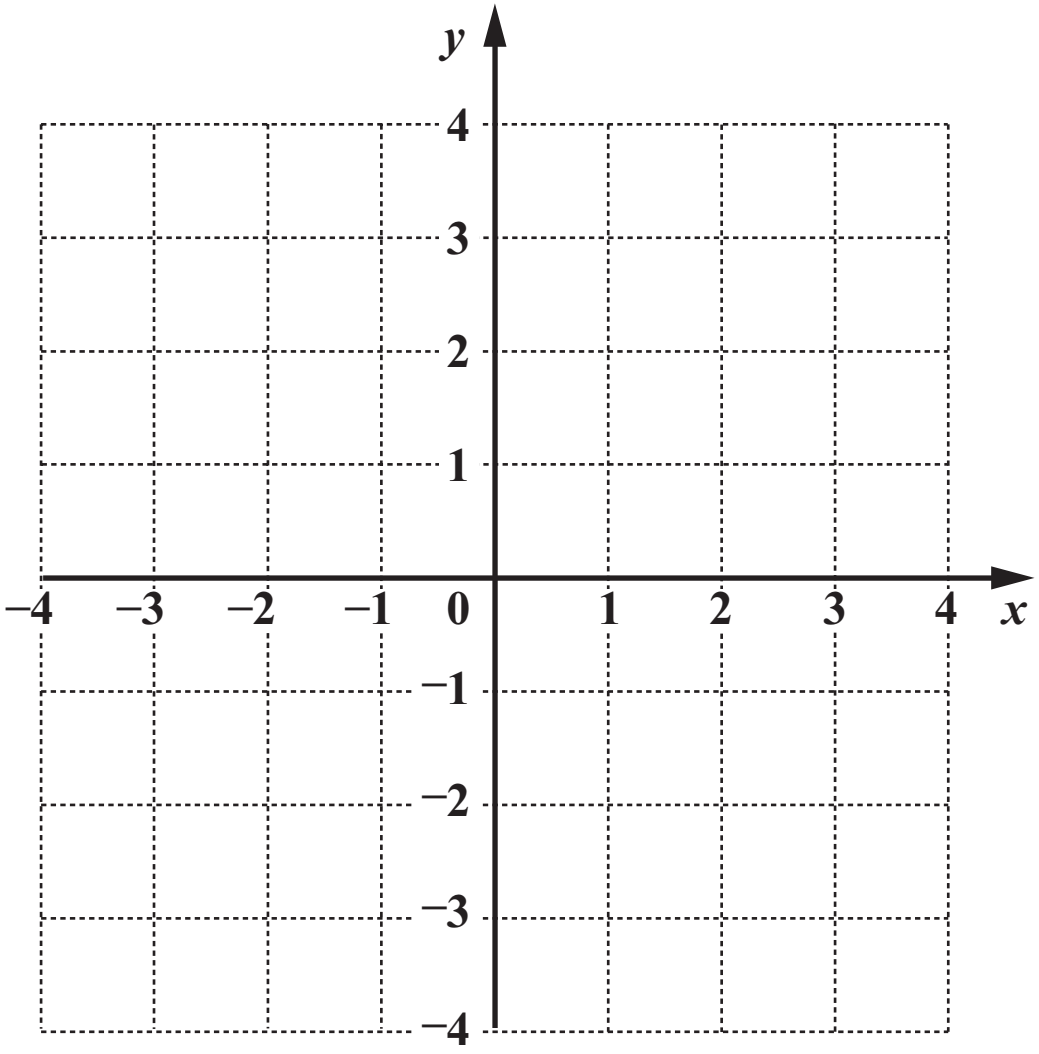
How much change should he receive from £5.00?
[2 marks]

(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

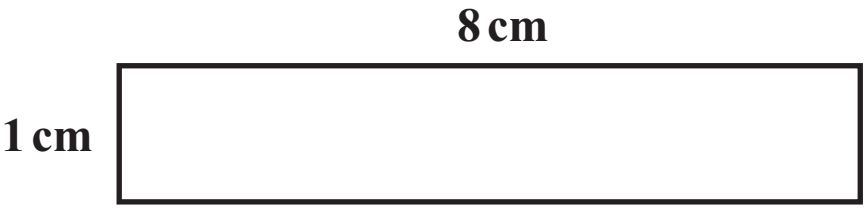
Without working out the mean, explain why she must be wrong.
[1 mark]

_____

_____

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

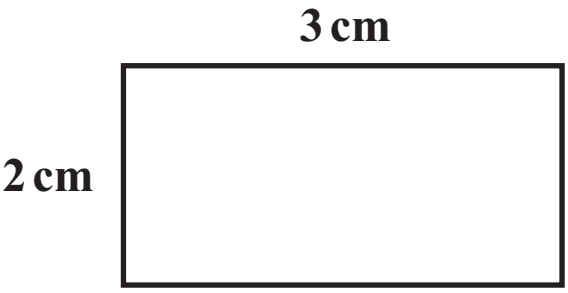
First rectangle



P = 1 + 8 + 1 + 8 = 18 cm

A = 1 × 8 = 8 cm²

Second rectangle



P = 2 + 3 + 2 + 3 = 10 cm

A = 2 × 3 = 6 cm²

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 = _____ cm^2

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 <u>INTEREST</u> 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]

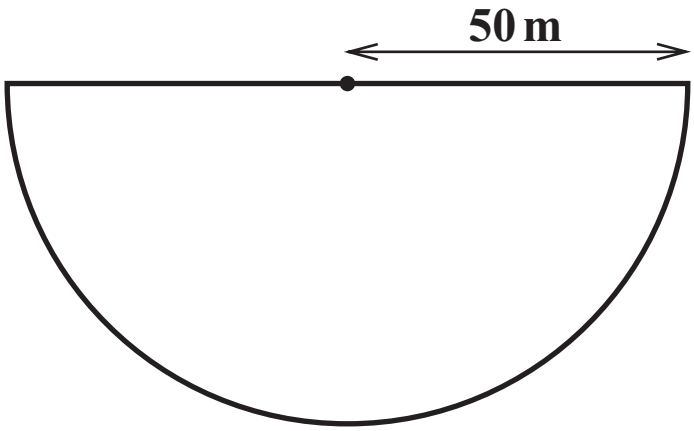
(a) _____

(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) _____ m^2

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

(b) _____ m

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