Candidate Forename		Candidate Surname	

Centre Number					Candidate Number				

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION

B291A

MATHEMATICS B (MEI)

Paper 1 Section A
(Foundation Tier)

MONDAY 18 MAY 2009: Afternoon
DURATION: 45 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper

<u>OCR SUPPLIED MATERIALS:</u>
None

<u>OTHER MATERIALS REQUIRED:</u>
Geometrical instruments
Tracing paper (optional)

<u>READ INSTRUCTIONS OVERLEAF</u>

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 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.**

- **Do not use a calculator for Section A of this paper.**
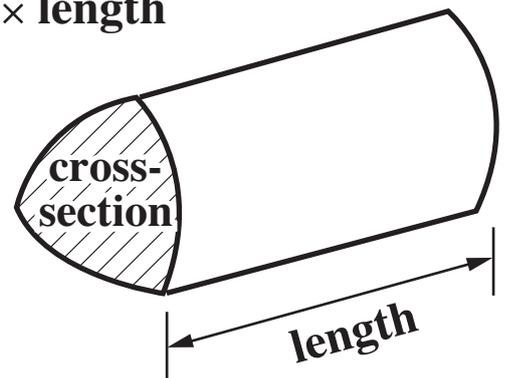
INFORMATION FOR CANDIDATES

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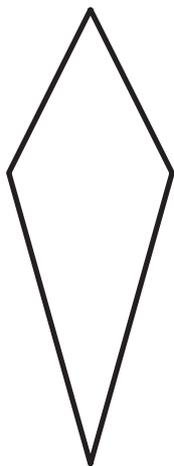
Area of trapezium $= \frac{1}{2}(a + b)h$
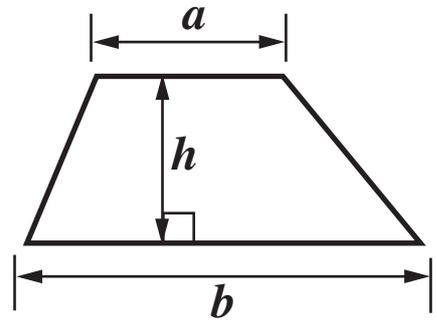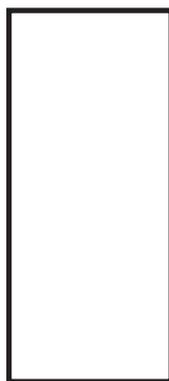

Volume of prism = (area of cross-section) $\times$ **length**

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1   Look at the five shapes below.

_____
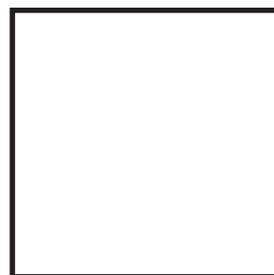
_____

_____

_____

_____

Write the name of each of the shapes underneath it.

Choose your answers from the list below.

>   **parallelogram**

>   **kite**

>   **trapezium**

>   **rectangle**

>   **rhombus**

>   **square**

[5 marks]

2   Work out the following.

(a) **173 + 282**
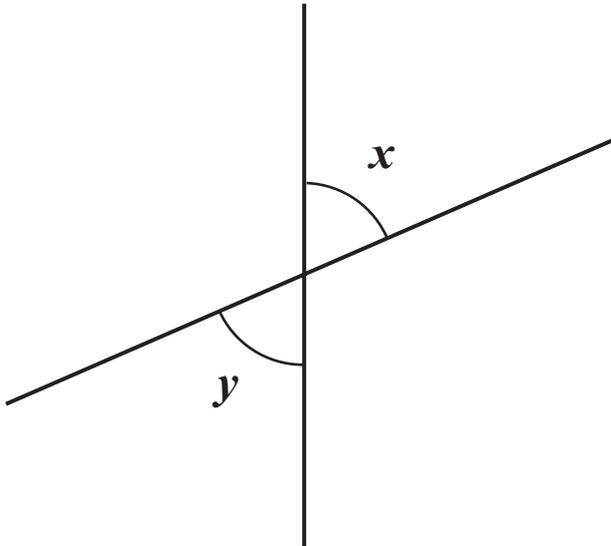   **[1 mark]**

(a) _____

(b) **908 − 364**
    [1 mark]

(b) _____

(c) **231 × 14**
    [2 marks]

(c) _____

3 **(a)** Write the fraction $\dfrac{3}{100}$ as a decimal.
[1 mark]

(a) _____

(b) Arrange the three numbers below in order of size, starting with the smallest.
[1 mark]

0.6   0.09   0.38

(b) _____ , _____ , _____
       smallest

4 **(a)** **The diagram below shows two intersecting straight lines.**

(i) **What type of angle is *x*?**
   Choose from the list below.
   [1 mark]

   reflex

   obtuse

   right angle

   acute

(a)(i) _____

(ii) **Without measuring, how do you know that angle *y***
   is equal to angle *x*?
   [1 mark]

   Reason _____

(b) **The diagram on the separate insert shows a triangle.**
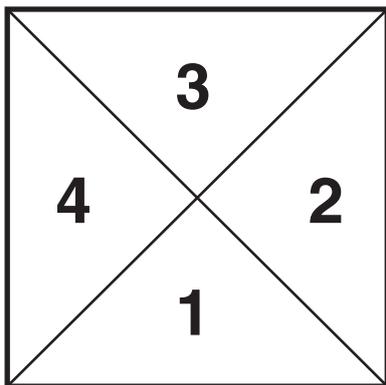
   (i) **Measure the line BC.**
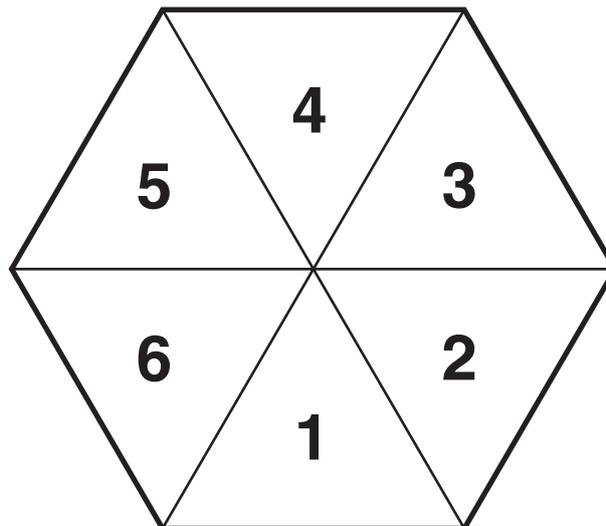   **[1 mark]**

   (b)(i) _____ **cm**

   (ii) **Measure the angle** *z*.
   [1 mark]

   (ii) _____ °

5 **The diagram below shows the faces of two spinners.**

```
        3
    4       2
        1
```
Spinner A

```
      4
   5     3
   6     2
      1
```
Spinner B

Ronnie spins these two spinners.
His total is the sum of the scores on the two spinners.
Example: He could score (2, 3) which gives a total of 5.

(a) What is the smallest possible total?
[1 mark]

(a) _____

(b) What is the largest possible total?
[1 mark]

(b) _____

(c) When showing the outcomes, the score on Spinner A is shown first.

The four outcomes below each give a total of six.

(1, 5) (2, 4) (3, 3) (4, 2)

Why is the outcome (5, 1) impossible?
[1 mark]

_____

(d) List the outcomes which give a total of seven.
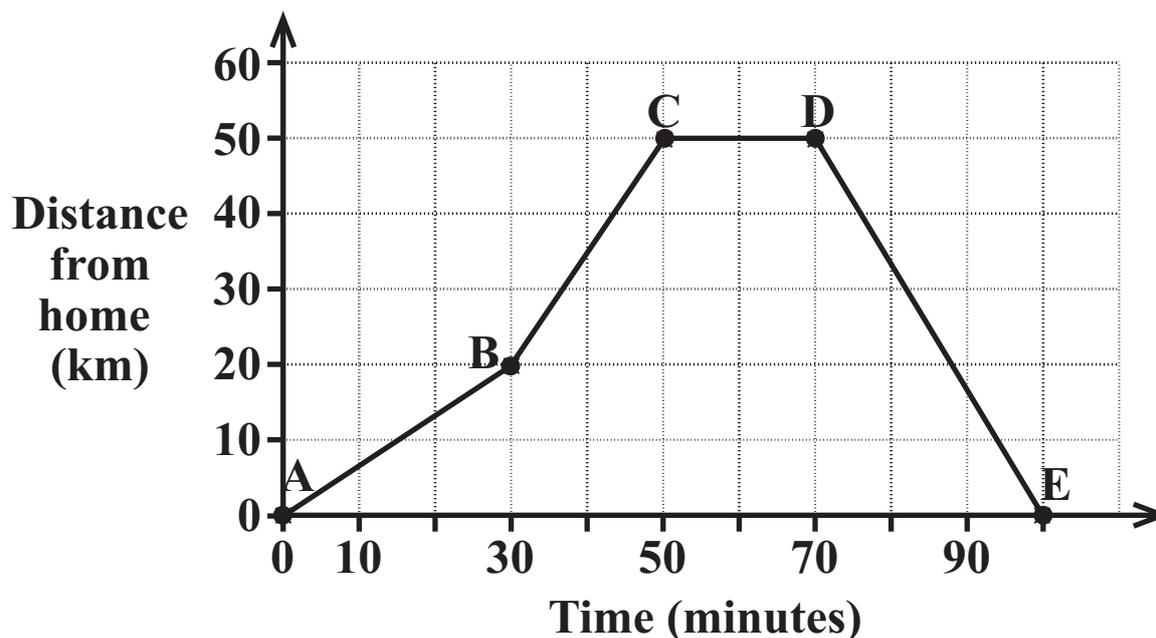You may not need all the spaces.
[1 mark]

(___ , ___)

(___ , ___)

(___ , ___)

(___ , ___)

(___ , ___)

6 Donna travelled by car to take flowers to her grandparents. The graph below represents her journey.

(a) How far did she travel in the first thirty minutes?
[1 mark]

(a) _____ km

(b) How long did she stay at her grandparents' house?
[1 mark]

(b) _____ mins

(c) What does section DE of the graph represent?
[1 mark]

_____

7 A group of 60 students vote for an end of term activity. The results are shown in the table below.

Activity	Number of votes
Video	25
Number game	5
Quiz	10
Music	20

(a) Why does a total of 60 make it easy to work out the angles for a pie chart?
[1 mark]

_____

(b) Draw a pie chart to show this information.
Use the grid on the separate insert.
[4 marks]

8 **(a) Simplify the following expressions.**

    (i) $4x + x + 3x$
    [1 mark]

    (a)(i) _____

    (ii) $9y - 2y + 5y$
    [1 mark]

    (ii) _____

(b) Work out

    $5x + 7y$ when $x = 4$ and $y = -2$
    [2 marks]

    (b) _____

(c) Solve the following equations.

    (i) $4(x - 3) = 14$
    [3 marks]

    (c)(i) _____

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(ii) $\frac{x}{4} - 1 = 7$

[2 marks]

(ii) _____

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