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|-------------------------------|--|------------------------------|--|
| <b>Candidate<br/>Forename</b> |  | <b>Candidate<br/>Surname</b> |  |
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|--------------------------|--|--|--|--|--|-----------------------------|--|--|--|--|
| <b>Centre<br/>Number</b> |  |  |  |  |  | <b>Candidate<br/>Number</b> |  |  |  |  |
|--------------------------|--|--|--|--|--|-----------------------------|--|--|--|--|

**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**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**Geometrical instruments  
Tracing paper (optional)**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

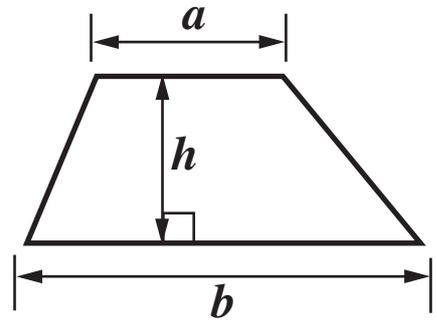
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your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

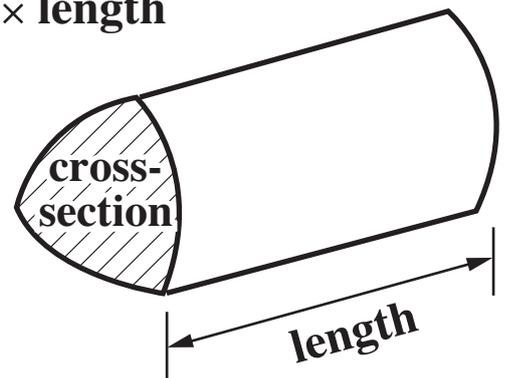
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 36.

## Formulae Sheet: Foundation Tier

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

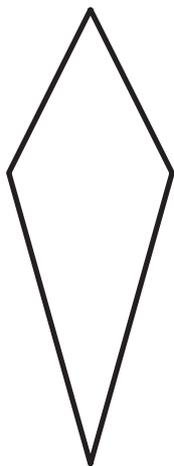


$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$

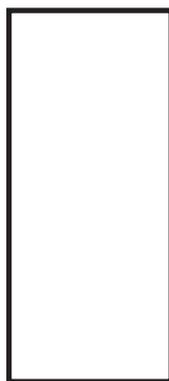


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**1 Look at the five shapes below.**



\_\_\_\_\_



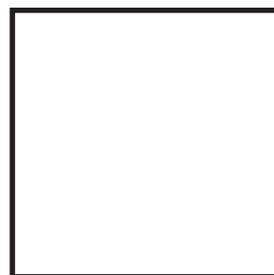
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

**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]**

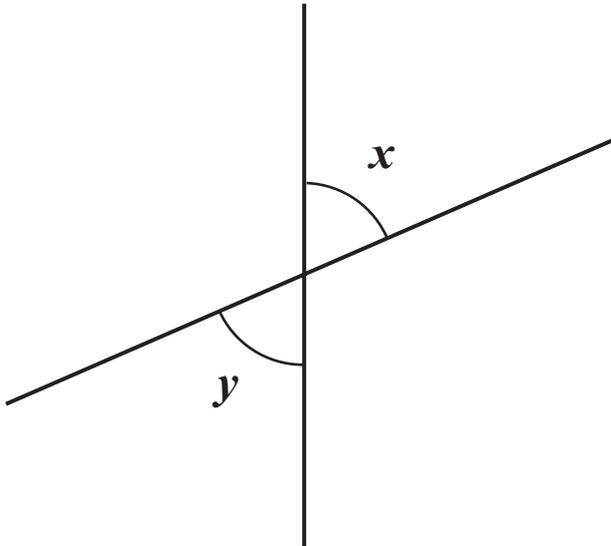
**(b)** \_\_\_\_\_

**(c)  $231 \times 14$   
[2 marks]**

**(c)** \_\_\_\_\_



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.**

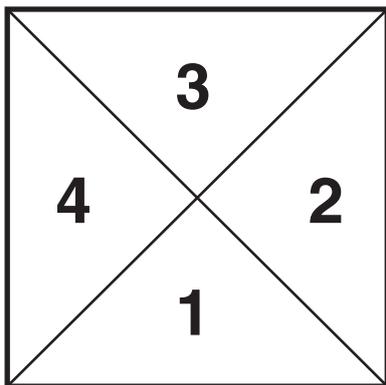
**(i) Measure the line BC.**  
**[1 mark]**

**(b)(i) \_\_\_\_\_ cm**

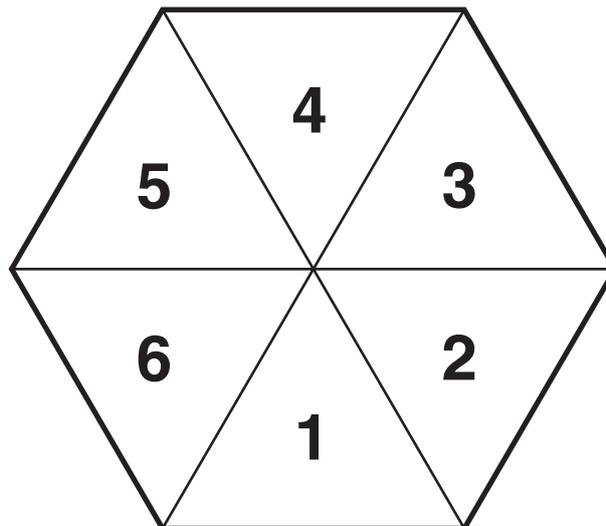
**(ii) Measure the angle z.**  
**[1 mark]**

**(ii) \_\_\_\_\_ °**

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



**Spinner A**



**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]

( \_\_\_\_\_ , \_\_\_\_\_ )

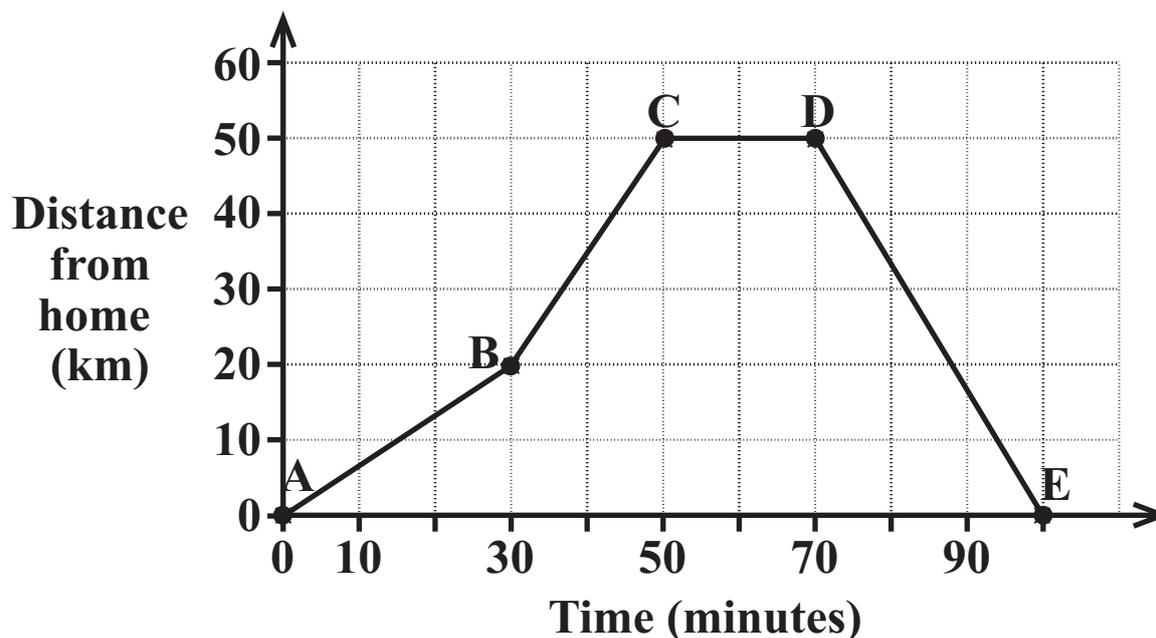
( \_\_\_\_\_ , \_\_\_\_\_ )

( \_\_\_\_\_ , \_\_\_\_\_ )

( \_\_\_\_\_ , \_\_\_\_\_ )

( \_\_\_\_\_ , \_\_\_\_\_ )

- 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.**

| <b>Activity</b>    | <b>Number of votes</b> |
|--------------------|------------------------|
| <b>Video</b>       | <b>25</b>              |
| <b>Number game</b> | <b>5</b>               |
| <b>Quiz</b>        | <b>10</b>              |
| <b>Music</b>       | <b>20</b>              |

- (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) \_\_\_\_\_**

(ii)  $\frac{x}{4} - 1 = 7$   
[2 marks]

(ii) \_\_\_\_\_

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