

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**

**B276A**

**MATHEMATICS C  
(GRADUATED ASSESSMENT)**

**MODULE M6 – SECTION A**

**THURSDAY 20 JANUARY 2011: Morning**

**DURATION: 30 minutes**

**SUITABLE FOR VISUALLY IMPAIRED CANDIDATES**

**Candidates answer on the question paper.**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**Geometrical instruments**

**Tracing paper (optional)**

**WARNING**

**No calculator can be used for  
Section A of this paper.**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

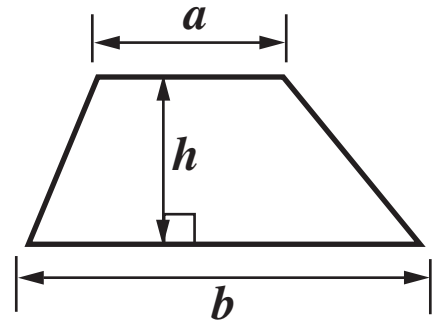
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **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**

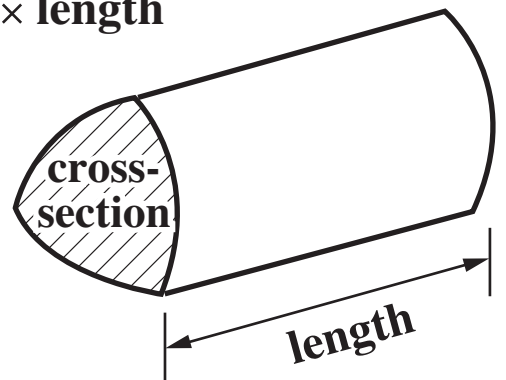
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

## Formulae Sheet

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



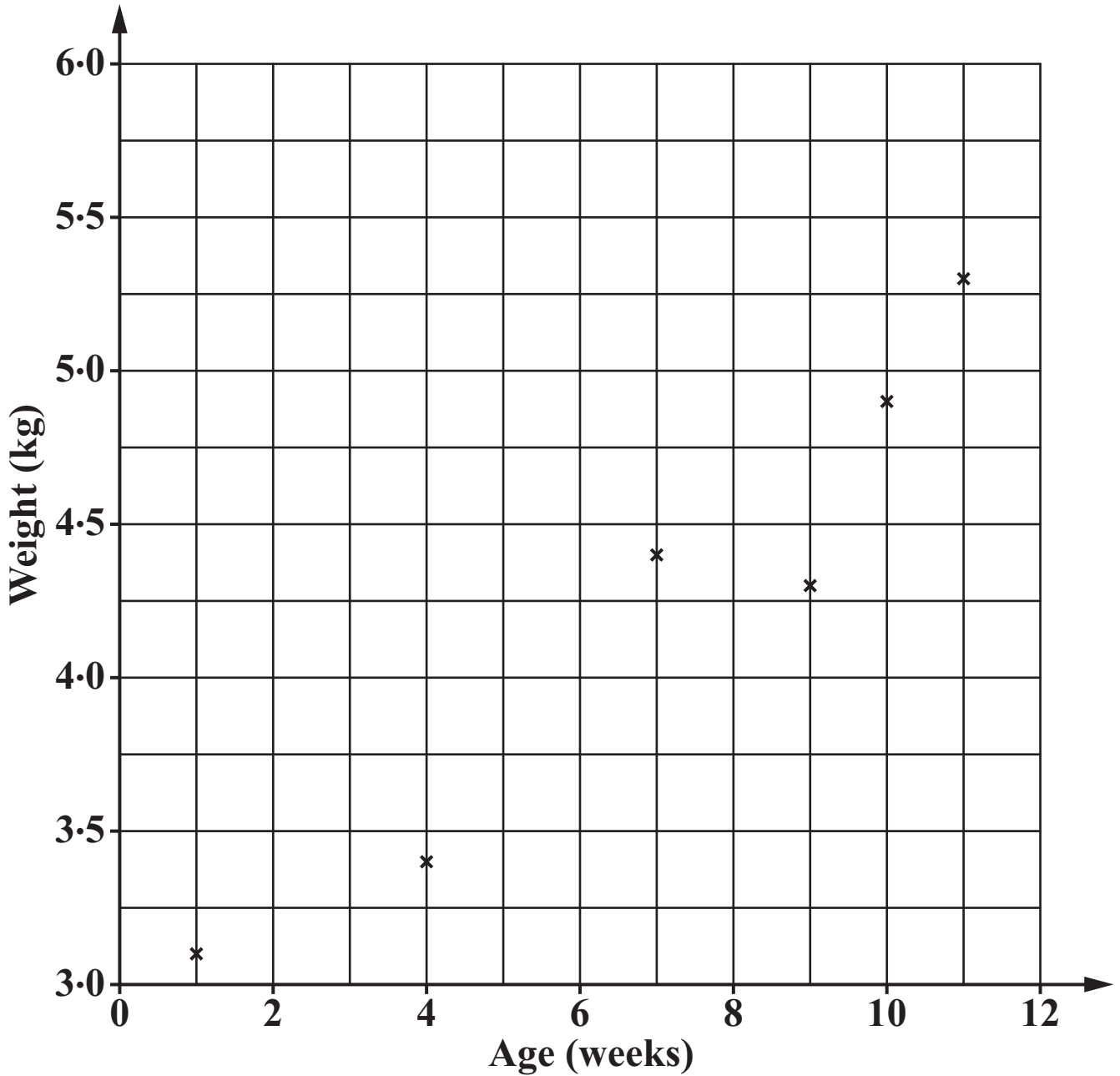
**Volume of prism = (area of cross-section)  $\times$  length**



**1 The table shows the ages and weights of 10 babies.**

<b>Age (weeks)</b>	<b>4</b>	<b>7</b>	<b>11</b>	<b>1</b>	<b>9</b>	<b>10</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>12</b>
<b>Weight (kg)</b>	<b>3.4</b>	<b>4.4</b>	<b>5.3</b>	<b>3.1</b>	<b>4.3</b>	<b>4.9</b>	<b>4.5</b>	<b>3.2</b>	<b>3.9</b>	<b>5.6</b>

**The points for the first six babies are plotted on the scatter graph.**



**(a) Plot the points for the remaining four babies. [2]**

**(b) Describe the correlation shown.**

\_\_\_\_\_ [1]

**(c) (i) Draw a line of best fit. [1]**

**(ii) Use your line of best fit to estimate the weight of a 5-week old baby.**

**(c)(ii) \_\_\_\_\_ kg [1]**

- 2 Aimee and Alex go out for a meal.  
The menu is shown below.**

<b>STARTER</b>	<b>PRICE</b>
<b>Soup</b>	<b>£ 4·20</b>
<b>Prawn cocktail</b>	<b>£ 5·35</b>

<b>MAIN COURSE</b>	<b>PRICE</b>
<b>Steak</b>	<b>£ 12·50</b>
<b>Mushroom stroganoff</b>	<b>£ 9·75</b>

<b>SWEET</b>	<b>PRICE</b>
<b>Ice cream</b>	<b>£ 2·25</b>
<b>Fruit salad</b>	<b>£ 3·20</b>

- (a) Aimee has soup, mushroom stroganoff and ice cream.**

**What is the total cost of her meal?**

**(a) £ \_\_\_\_\_ [2]**

**(b) Alex has prawn cocktail, steak and fruit salad.**

**How much more does his meal cost than Aimee's meal?**

**(b) £ \_\_\_\_\_ [2]**

**(c) The restaurant also offers a party menu at a cost of £11.50 per meal.**

**How much would it cost for 46 meals from the party menu?**

**(c) £ \_\_\_\_\_ [3]**

**3 Last year, Mike earned £35 000.  
His mortgage repayments for that year amounted to £10 500.**

**(a) Write the ratio of his mortgage repayments to his earnings in its simplest form.**

**(a) \_\_\_\_\_ : \_\_\_\_\_ [2]**

**(b) To avoid financial difficulties, it is recommended that mortgage repayments should not be more than  $\frac{1}{3}$  of earnings.**

**Were Mike's mortgage repayments more than  $\frac{1}{3}$  of his earnings?**

**Give a reason for your answer.**

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**[2]**



**4 (a) Work out.**

**(i)  $5 + 3 \times 4$**

**(a)(i) \_\_\_\_\_ [1]**

**(ii)  $-2 + 5^2$**

**(ii) \_\_\_\_\_ [1]**

**(b) Put brackets in this calculation so that it is correct.**

**$2 \times 5 + 3 + 4 = 20$  [1]**

**5 (a) Expand.**

$$3(x + 6)$$

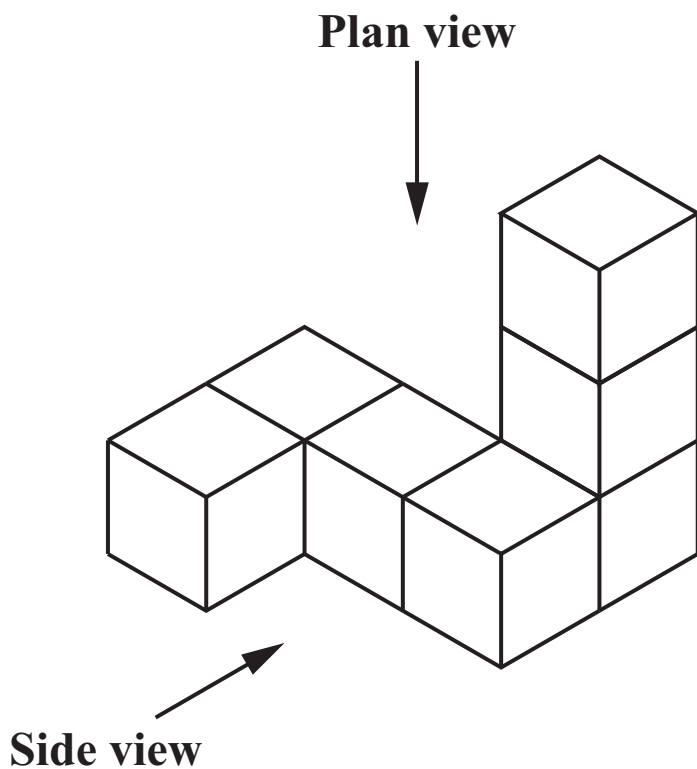
**(a)** \_\_\_\_\_ **[1]**

**(b) Factorise.**

$$7a + 21$$

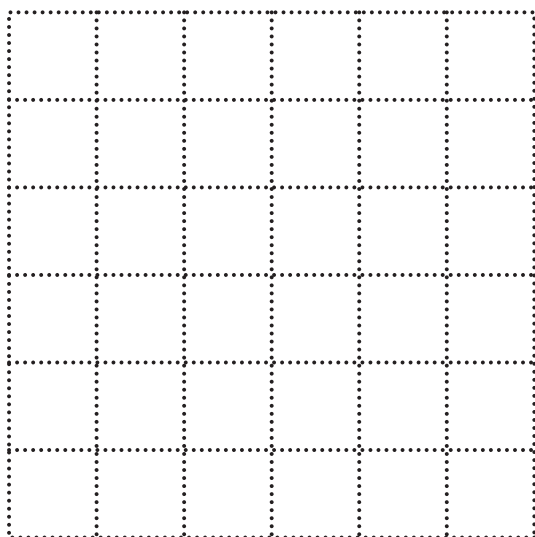
**(b)** \_\_\_\_\_ **[1]**

**6 This solid is made from seven 1 cm cubes.**

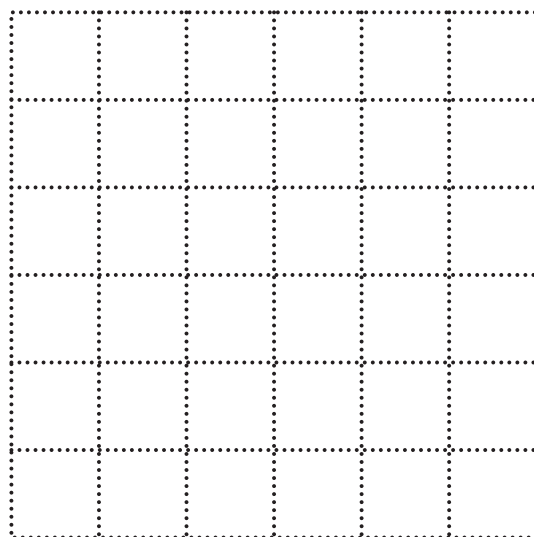


**On the grids, draw the plan view and the side view of the solid.**

**Plan view**



**Side view**



**[2]**

**TURN OVER FOR QUESTION 7**

- 7 Rex and Yasmin enter a competition.  
The probability that Rex wins the first prize is 0.07.  
The probability that Yasmin wins the first prize is 0.18.**

**What is the probability that the first prize is won by someone other than Rex or Yasmin?**

\_\_\_\_\_ [2]



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