

Candidate forename						Candidate surname					
Centre number						Candidate number					

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**B276B**

**MATHEMATICS C  
(GRADUATED ASSESSMENT)**

**MODULE M6 – SECTION B**

**TUESDAY 1 MARCH 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)**

**Scientific or graphical calculator**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

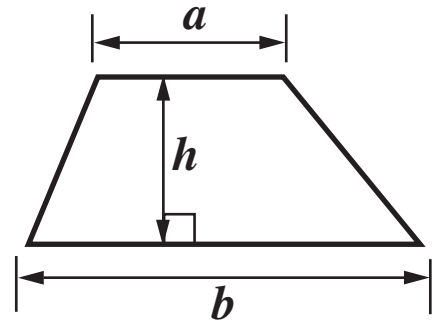
- Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write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

## **INFORMATION FOR CANDIDATES**

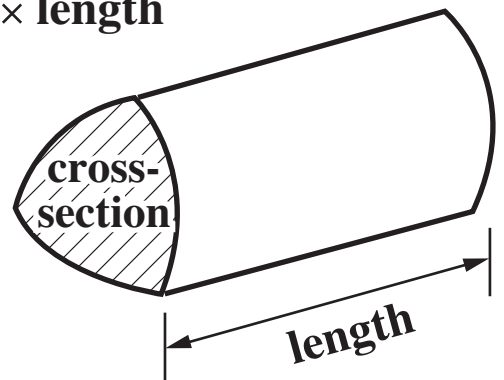
- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- Use the  $\pi$  button on your calculator or take  $\pi$  to be 3.142 unless the question says otherwise.
- 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



**7 (a) Calculate the reciprocal of 25 as a decimal. [1 mark]**

**(a)** \_\_\_\_\_

**(b) Calculate.**

$$\frac{16 \times 5^2}{52.6 - 30.5}$$

**Give your answer correct to 1 decimal place. [2 marks]**

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

- 8 Mr Green is taking some students on a school trip.  
He takes 42 boys and 56 girls.**

**Write down the ratio of boys to girls in its simplest form.  
[2 marks]**

\_\_\_\_\_ : \_\_\_\_\_

- 9 Mr Ali asked some students “In how many subjects were you given homework last week?”  
He recorded their answers in a table.**

<b><u>Subjects</u></b>	<b><u>Frequency</u></b>
<b>0</b>	<b>5</b>
<b>1</b>	<b>4</b>
<b>2</b>	<b>2</b>
<b>3</b>	<b>1</b>
<b>4</b>	<b>6</b>
<b>5</b>	<b>3</b>
<b>6</b>	<b>5</b>
<b>7</b>	<b>4</b>

**(a) Write down the mode. [1 mark]**

**(a)** \_\_\_\_\_

**(b) Calculate the mean. [3 marks]**

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

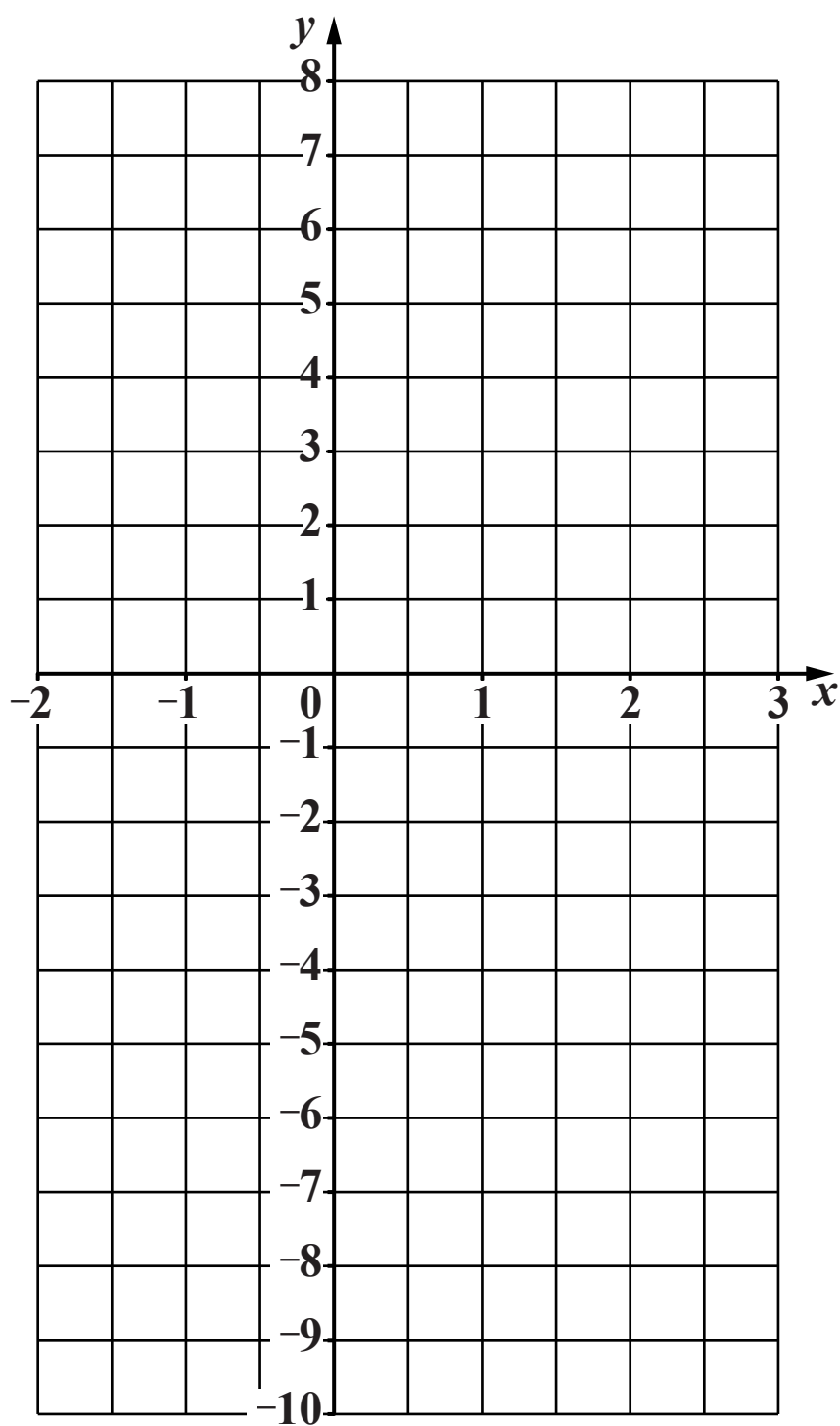
**10 (a) Complete this table of values for  $y = 5x - 3$ .**

**[1 mark]**

$x$	<b>-1</b>	<b>0</b>	<b>1</b>	<b>2</b>
$y$			<b>2</b>	

**(b) Draw the graph of  $y = 5x - 3$ .**

**[2 marks]**



- (c) Use your graph to find the value of  $x$  when  $y = 4$ .  
[1 mark]**

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

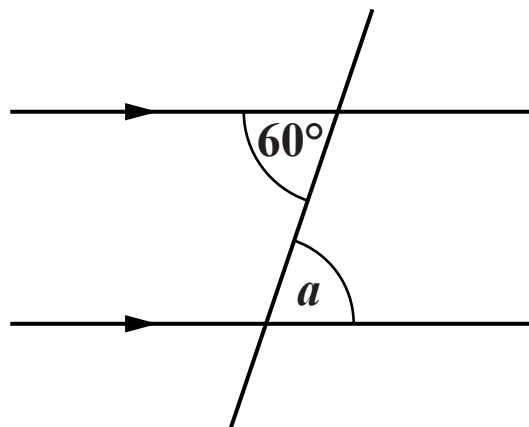
- 11 (a) Work out the value of  $7x + 3y$  when  $x = 4$  and  $y = -5$ .  
[2 marks]**

**(a)** \_\_\_\_\_

- (b) Factorise.  
 $6x - 9$   
[1 mark]**

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

**12 Look at this diagram.**



**Not to scale**

**Complete this sentence. [2 marks]**

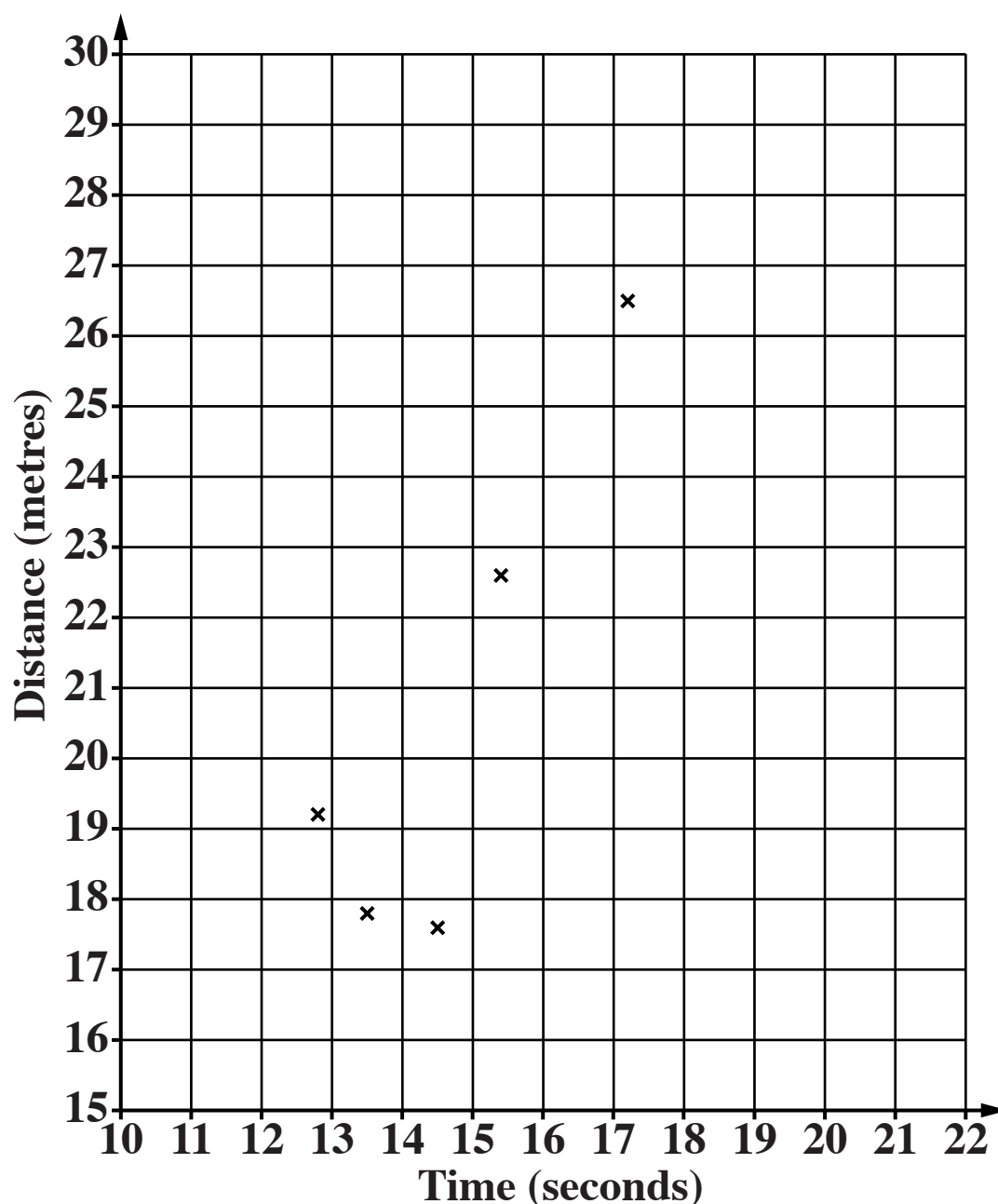
Angle  $a$  = \_\_\_\_\_<sup>°</sup> because \_\_\_\_\_

\_\_\_\_\_

- 13** This table shows the times it took 10 people to run 100 m and how far they each threw the discus.

<b><u>Time</u></b> <b>(seconds)</b>	<b>14.5</b>	<b>17.2</b>	<b>15.4</b>	<b>13.5</b>	<b>12.8</b>	<b>20.6</b>	<b>14.8</b>	<b>16.2</b>	<b>18.3</b>	<b>12.0</b>
<b><u>Distance</u></b> <b>(metres)</b>	<b>17.6</b>	<b>26.5</b>	<b>22.6</b>	<b>17.8</b>	<b>19.2</b>	<b>29.0</b>	<b>18.6</b>	<b>21.3</b>	<b>27.5</b>	<b>15.5</b>

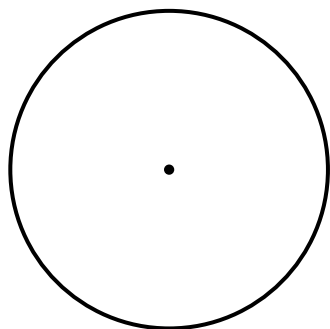
The results for the first five people are plotted on the scatter diagram below.



- (a) Complete the scatter diagram. [2 marks]

- (b) Describe the relationship between the time for running 100 m and how far the discus is thrown. [1 mark]**
-

**14 (a) Draw a chord on the circle below. [1 mark]**



**(b) Kevin has a circular pond of radius of 1.8 m.**

**Calculate the area of the pond.**

**Give the units of your answer. [3 marks]**

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

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