

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**

B281A

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

TERMINAL PAPER – SECTION A (FOUNDATION TIER)

MONDAY 7 JUNE 2010: Afternoon

DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

Pie chart scale (optional)

WARNING

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

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

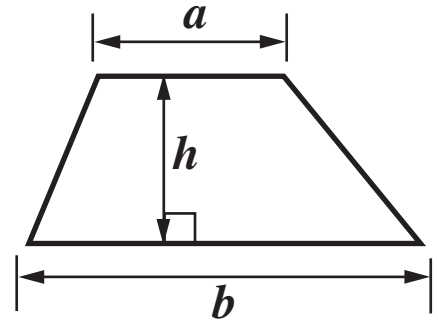
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**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

INFORMATION FOR CANDIDATES

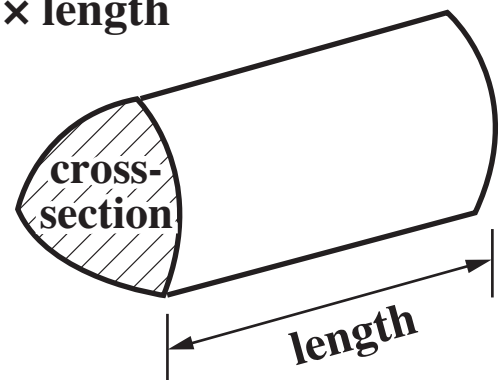
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 50.**

Formulae Sheet

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



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



1 (a) At a Byton Town football match, there were 25 062 spectators.

**(i) Write 25 062 in words.
[1 mark]**

**(ii) Write 25 062 to the nearest hundred.
[1 mark]**

(a)(ii) _____

**(b) During the season, Byton Town scored 80 goals.
22 goals were scored against them.**

**Work out $80 - 22$.
[1 mark]**

(b) _____

2 (a) Use the numbers from the list below to complete the questions that follow.

9

11

12

15

21

30

**(i) _____ is a multiple of 7.
[1 mark]**

**(ii) _____ is a factor of _____.
[1 mark]**

**(iii) _____ is an even number.
[1 mark]**

**(iv) _____ is a prime number.
[1 mark]**

**(b) Explain how you can tell that 9 is a square number.
[1 mark]**

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3 (a) Work out 50% of £9.
[1 mark]

(a) £ _____

(b) Work out $\frac{1}{5}$ of £60.
[1 mark]

(b) £ _____

(c) Write 30% as a decimal.
[1 mark]

(c) _____

(d) Write 12% as a fraction in its simplest form.
[2 marks]

(d) _____

4 (a) Ahmed asked some people what was their favourite sport.

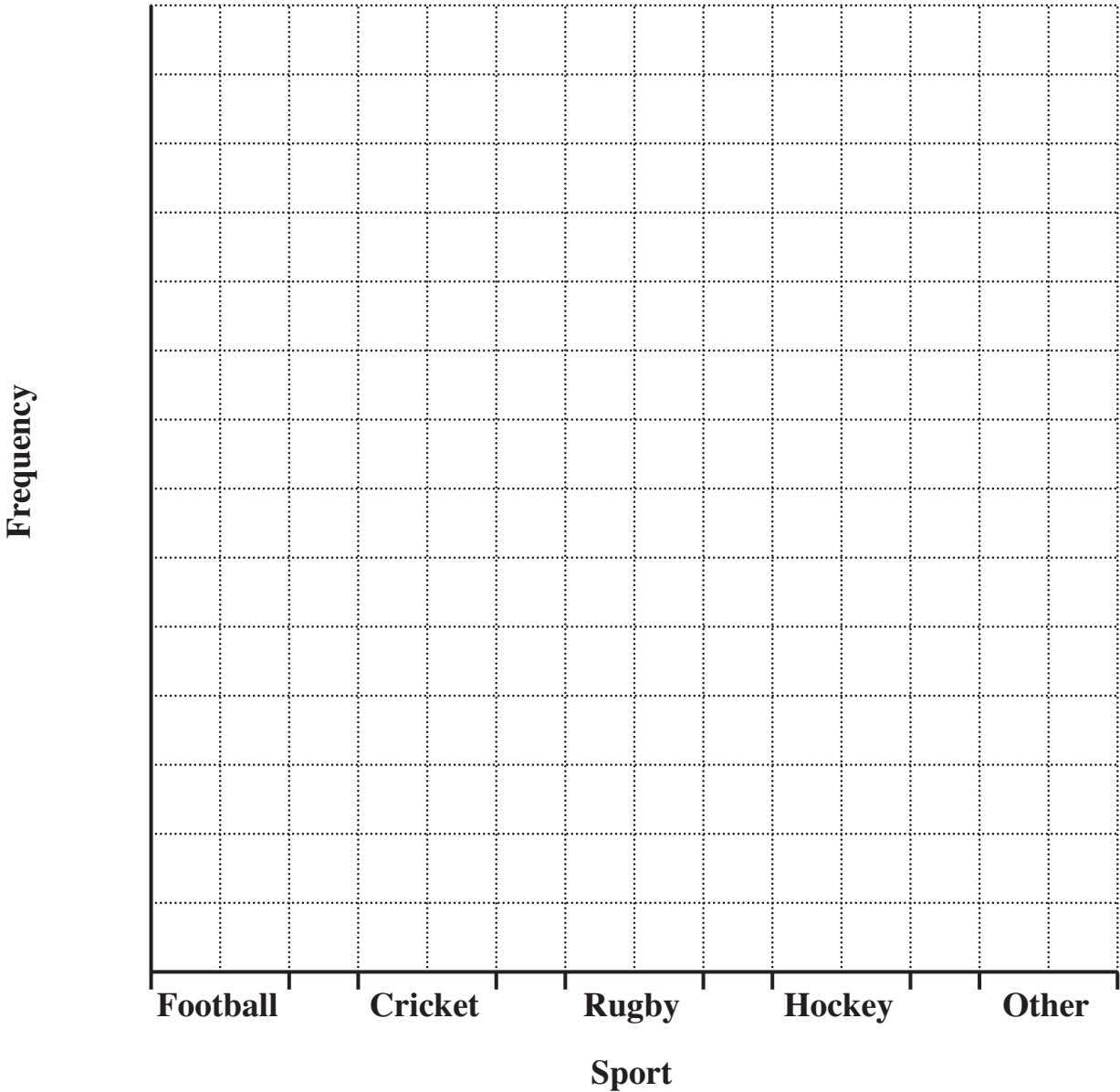
This table summarises their responses.

Sport	Frequency
Football	9
Cricket	12
Rugby	7
Hockey	3
Other	10

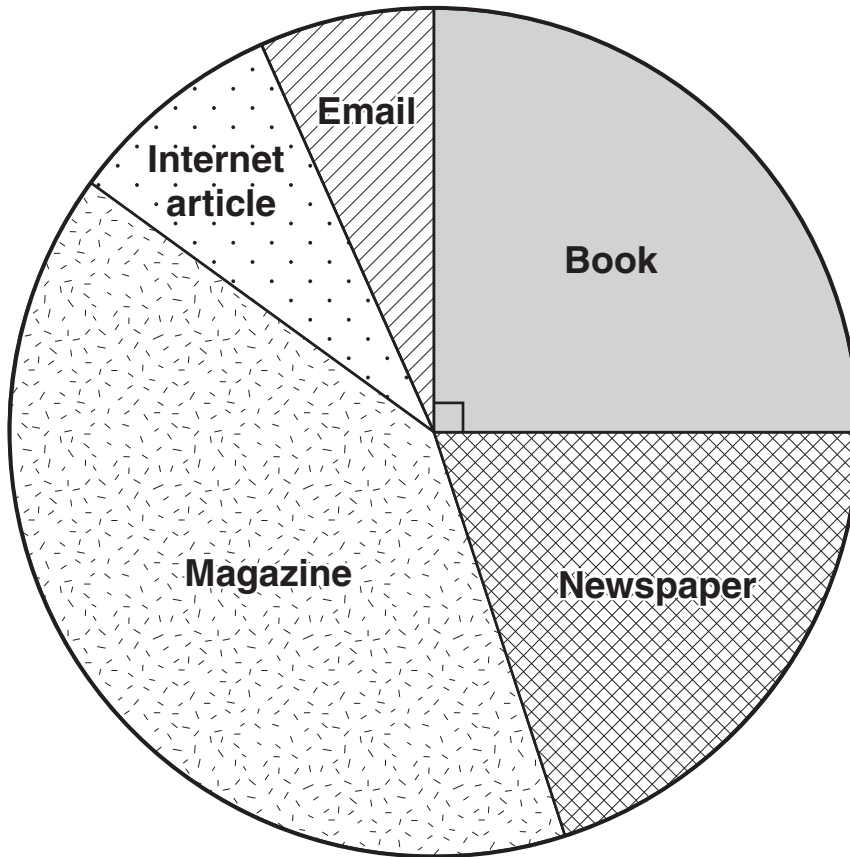
**(i) Which sport was the mode?
[1 mark]**

(a)(i) _____

**(ii) Draw a bar chart to represent the responses.
[3 marks]**



- (b) Jane asked some people what was their favourite sort of reading.
This pie chart summarises the results.



- (i) Use the pie chart to complete this sentence.
[1 mark]

Reading a _____ is twice as popular as reading a Newspaper.

(ii) 60 people answered altogether.

How many chose Book?
[2 marks]

(b)(ii) _____

5 A university college has a new building with bedrooms for students.

The building has 4 floors.

There are 35 bedrooms on each floor. Each bedroom is for one student.

(a) How many bedrooms are there in the building altogether?

[2 marks]

(a) _____

(b) In each bedroom there are three bookshelves.

Two are 1.4 m long and one is 2.3 m long.

Calculate the total length of the bookshelves in one bedroom.

[2 marks]

(b) _____ m

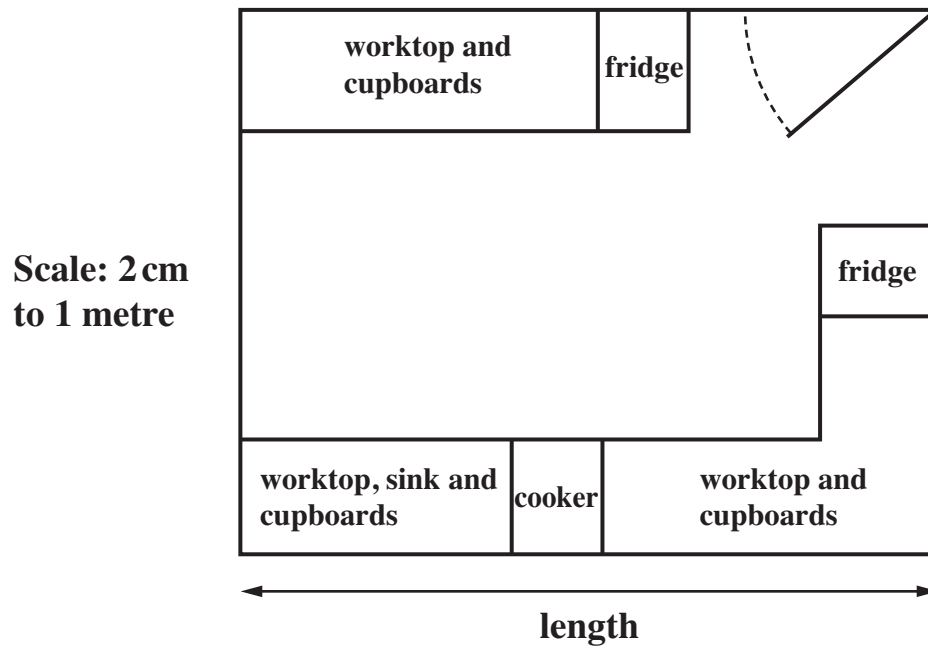
- (c) On each floor, 35 students share 5 kitchens.
The same number of students use each kitchen.**

**How many students use one kitchen?
[2 marks]**

(c) _____

(d) Here is a plan view of one of the kitchens.

The scale is 2 cm to 1 metre.



**What is the length of the real kitchen?
[2 marks]**

(d) _____ m

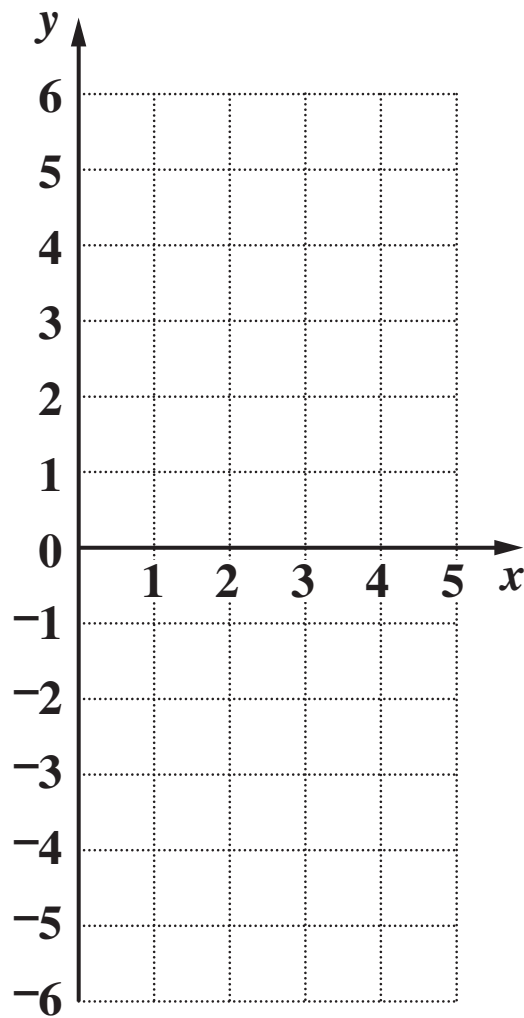
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TURN OVER FOR QUESTION 6

- 6 (a) Complete this table for $y = 2x - 5$.
[1 mark]

x	0	2	4
y	-5		

- (b) Draw the graph of $y = 2x - 5$.
[2 marks]



(c) Is the point (12, 9) on the line $y = 2x - 5$ if the line is drawn far enough?

Explain how you get your answer.

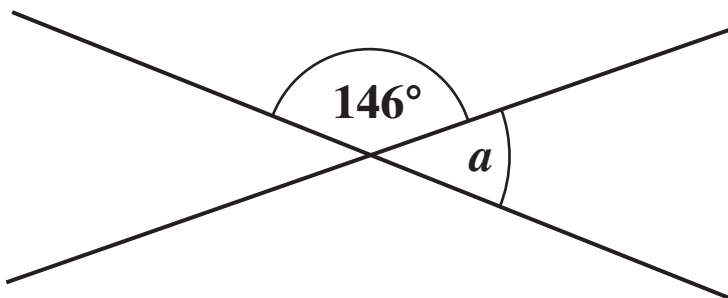
[1 mark]



**Write Yes
or No.**

_____ because _____

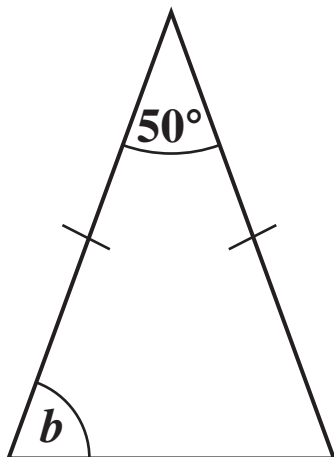
- 7 (a) In the diagram below:
Find the size of angle a .
Give a reason for your answer.
[2 marks]



Not to scale

$a =$ _____ $^\circ$ because _____

- (b) In the diagram below:
Find the size of angle b .
Give reasons for your answer.
[3 marks]



Not to scale

$b =$ _____ $^\circ$ because _____

8 Work out.

(a) $2^3 \times 5^2$

[2 marks]

(a) _____

(b) $\frac{4}{5} - \frac{3}{7}$

[2 marks]

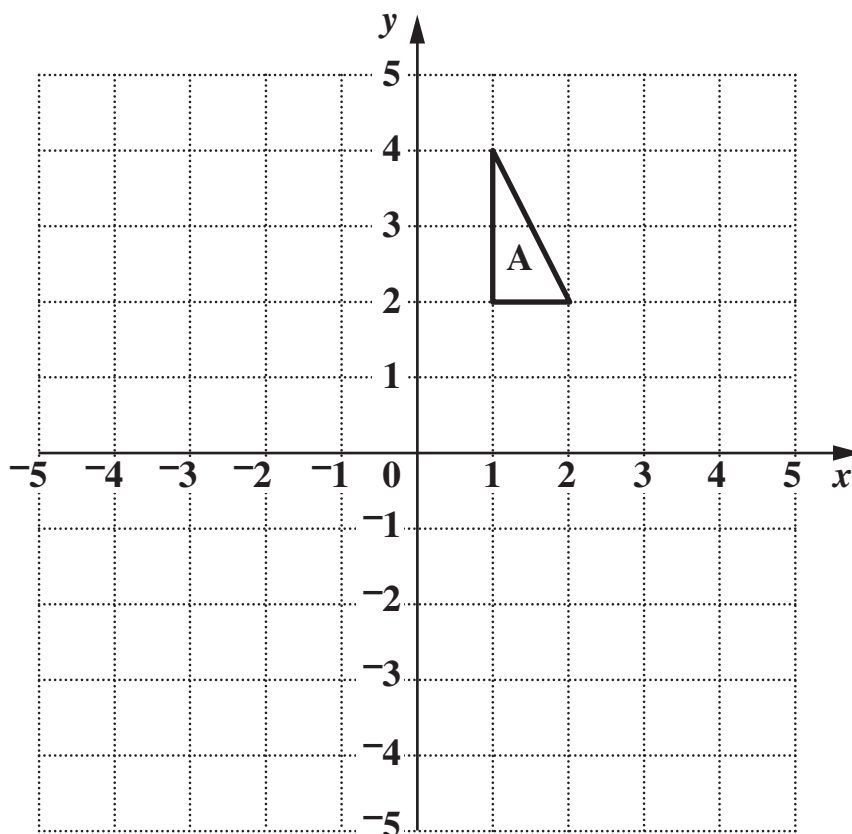
(b) _____

9 Solve.

$$2x + 1 = 2(3x - 4)$$

[3 marks]

10 Use the diagram below to answer the questions that follow.



- (a) **Reflect triangle A in the line $y = 0$.**
Label the image B.
[1 mark]
- (b) **Rotate triangle A 90° anticlockwise with centre $(0, 0)$.**
Label the image C.
[2 marks]

- 11 Pete has ordered some souvenir mugs to sell.
They are delivered in boxes.
When he opens the first box he finds a faulty mug, so he checks all the mugs in this box.**

Condition	Number of mugs
Perfect	30
Faulty	18

- (a) A mug is chosen at random from the first box.**

**Show that the probability that the mug is faulty is $\frac{3}{8}$.
[1 mark]**

(b) Altogether Pete has ordered 400 mugs.

**About how many would you expect to be faulty?
Show your working clearly.
[2 marks]**

(b) _____



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