

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)

FRIDAY 15 JANUARY 2010: Morning

DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Pie chart scale (optional)

Tracing paper (optional)

WARNING

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

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

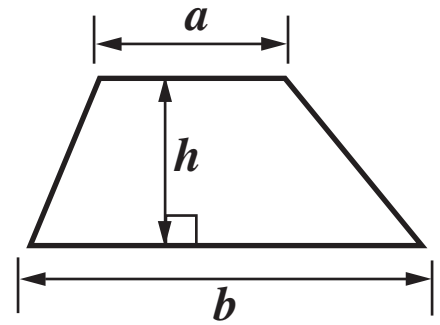
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**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

INFORMATION FOR CANDIDATES

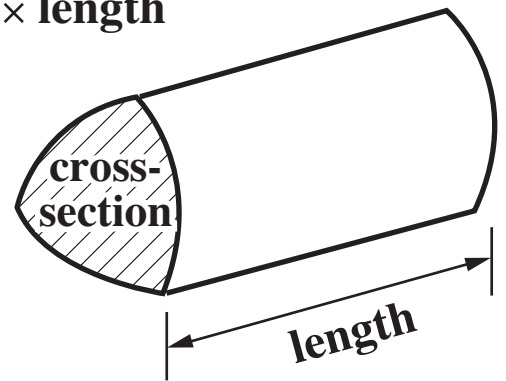
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 50.**

Formulae Sheet

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



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



1 Work out.

**(a) $302 - 147$
[2 marks]**

(a) _____

**(b) 3.4×100
[1 mark]**

(b) _____

**(c) 68×3
[1 mark]**

(c) _____

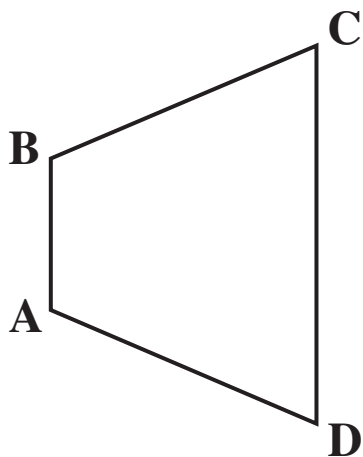
(d) $\frac{3}{5}$ of 45
[2 marks]

(d) _____

(e) $340 \div 20$
[1 mark]

(e) _____

2 ABCD is an isosceles trapezium.








**(a) Measure the length of the line AD in centimetres.
[1 mark]**

(a) _____ cm

**(b) Draw the line of symmetry on the trapezium.
[1 mark]**

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- 3 (a) Jules asked 50 people where they had been for their last holiday.
This pictogram shows their responses.**

Spain	
UK	
France	
USA	
Australia	
Other places	

Key:  = 2 people

- (i) How many people had been to France for their last holiday?
[1 mark]**

(a)(i) _____

- (ii) The row for Australia is not complete.**

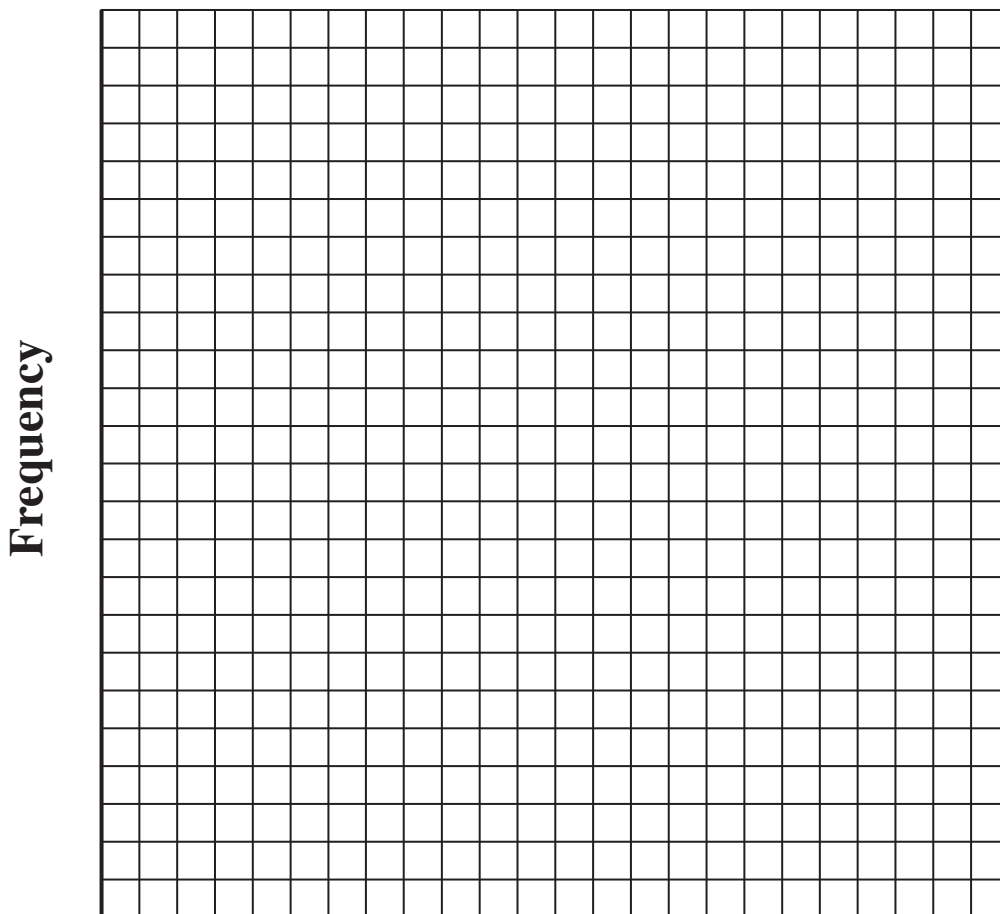
**Work out how many people had been to Australia and show this on the pictogram.
[3 marks]**

(b) Jules also asked the 50 people to rate their holidays. He used tally marks to record their answers.

Rating	Tally marks	Frequency
Excellent	### ### ###	
Good	### ### ### //	
Satisfactory	### ###	
Poor	### //	
Dreadful	//	

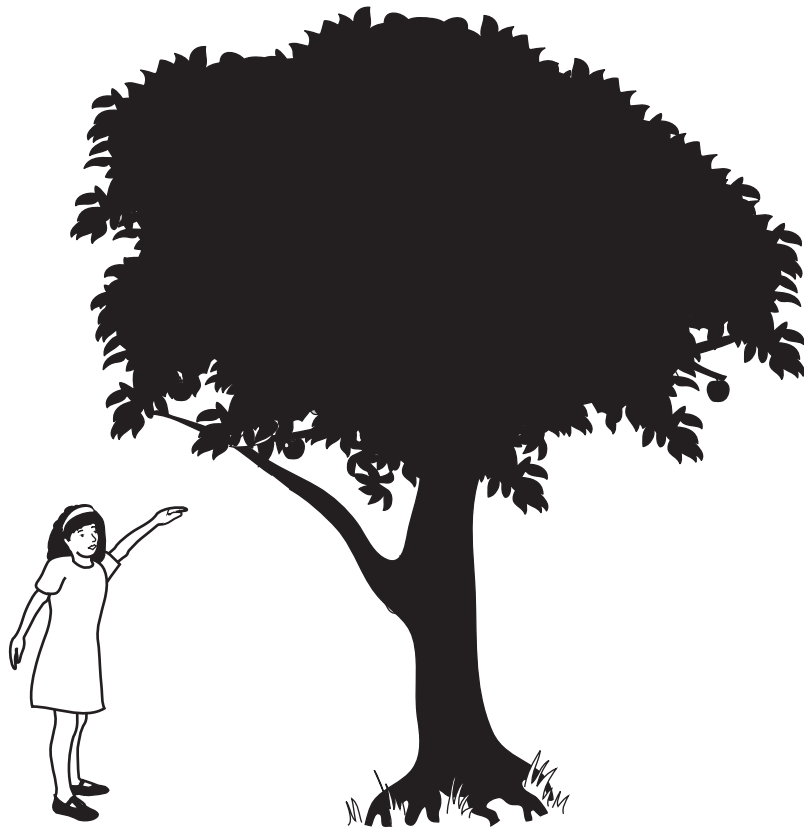
(i) Complete the frequency column.
[1 mark]

(ii) Draw a bar chart to show this information.
[4 marks]



Rating

- 4 Annie, who is eight years old, picks an apple from the tree in her garden.



- (a) Complete this sentence for Annie, using the correct METRIC unit.

[1 mark]

I estimate that this apple weighs

100 _____ .

- (b) Estimate the height of the tree, giving the correct **METRIC** unit.
Explain how you worked out your estimate.
[3 marks]

I estimate that the height of the tree is

_____ **because** _____

5 Sam is playing a game with a fair coin and a fair dice. The four faces of the dice are numbered 1, 2, 3 and 4.

(a) Sam throws the dice once.

What is the probability that the dice lands on 2?

[1 mark]

(a) _____

(b) Sam throws the coin and the dice together.

(i) Complete the table to show all the possible outcomes.

[2 marks]

**You may not
need to use
all the rows.**

Coin	Dice
Head	1

- (ii) What is the probability that Sam throws a head and an odd number?
[2 marks]**

(b)(ii) _____

6 (a) Simplify.

$$3x + 7y + y - 2x$$

[2 marks]

(a) _____

(b) Solve.

(i) $x - 4 = 9$

[1 mark]

(b)(i) _____

(ii) $\frac{x}{3} = 5$

[1 mark]

(ii) _____

(iii) $2x + 3 > 15$
[2 marks]

(ii) _____

7 Fill in the missing numbers in these patterns.

$$(a) \quad 256 \quad \times \quad 10 \quad = \quad 2560$$

$$128 \quad \times \quad 20 \quad = \quad 2560$$

$$64 \quad \times \quad \underline{\hspace{2cm}} \quad = \quad 2560$$

$$\underline{\hspace{2cm}} \quad \times \quad \underline{\hspace{2cm}} \quad = \quad 2560$$

$$\underline{\hspace{2cm}} \quad \times \quad \underline{\hspace{2cm}} \quad = \quad 2560$$

[2 marks]

$$(b) \quad 9^2 \quad - \quad 8^2 \quad = \quad 17$$

$$8^2 \quad - \quad 7^2 \quad = \quad \underline{\hspace{2cm}}$$

$$7^2 \quad - \quad \underline{\hspace{2cm}} \quad = \quad \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \quad - \quad \underline{\hspace{2cm}} \quad = \quad \underline{\hspace{2cm}}$$

[3 marks]

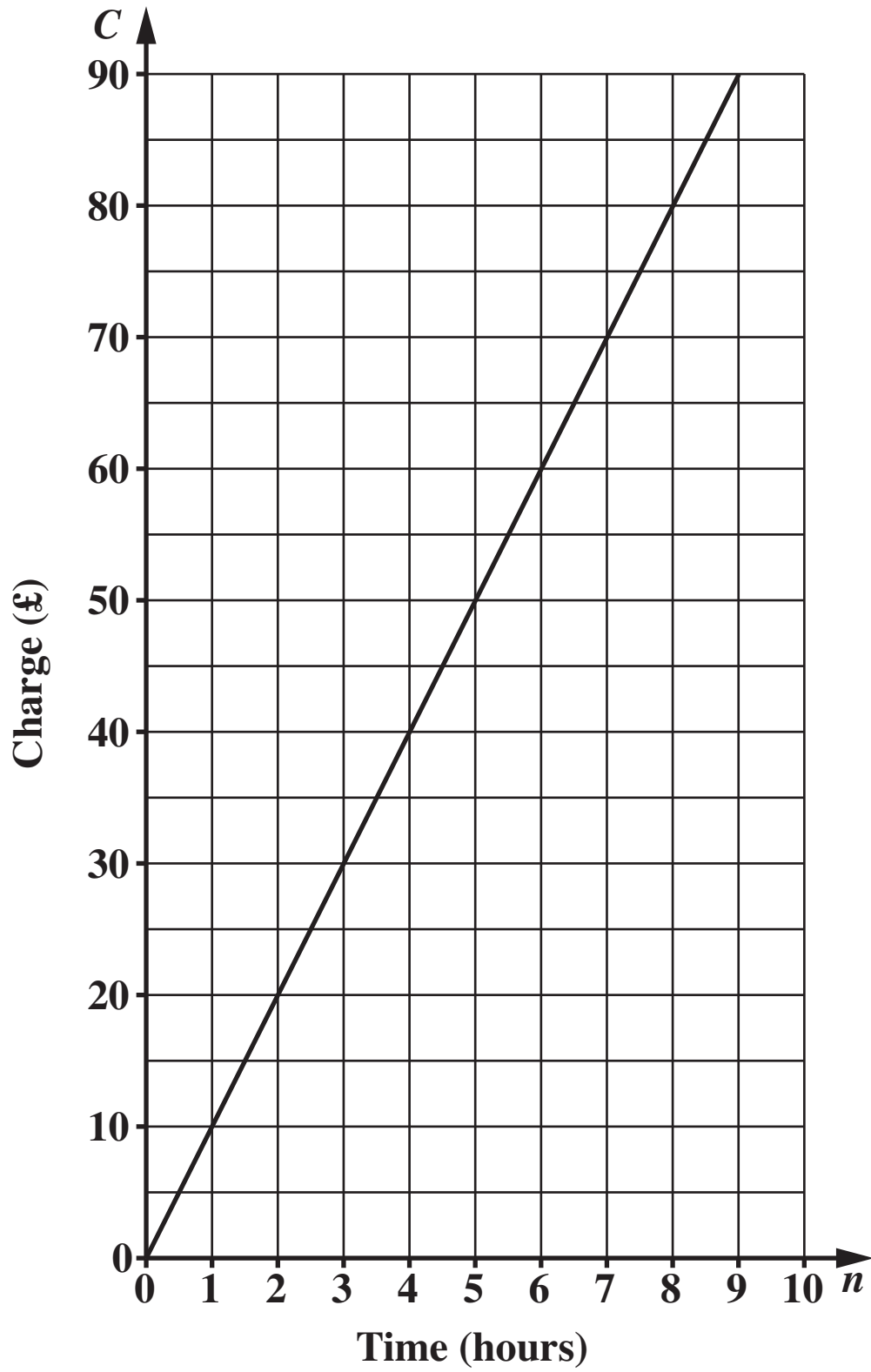
8 Cleanit! and SpickandSpan are two companies offering cleaning services.

The graph opposite shows how much Cleanit! charges for its cleaning services.

(a) How much does Cleanit! charge for $2\frac{1}{2}$ hours of cleaning?

[1 mark]

(a) £ _____



- (b) SpickandSpan uses this formula to calculate its charge for cleaning.

$$C = 5 + 8n$$

C is the charge in £,
 n is the number of hours.

- (i) Complete this table for the charges for SpickandSpan.

[1 mark]

n	1	5	10
C			

- (ii) Draw the graph of the charges of SpickandSpan on the same grid as those for Cleanit!.

[2 marks]

- (c) Jenny needs to have her offices cleaned.
The cleaning will take 8 hours each week.

Which of these two cleaning firms will be cheaper and by how much each week?

[2 marks]

(c) _____ by £ _____

9 (a) Complete.

$$\frac{2}{5} = \frac{\square}{15} = \frac{10}{\square}$$

[2 marks]

(b) Work these out.

Give your answers as mixed numbers.

(i) $3 - \frac{2}{5}$

[1 mark]

(b)(i) _____

(ii) $2\frac{2}{3} + 3\frac{2}{5}$

[3 marks]

(ii) _____



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