OCR
RECOGNISING ACHIEVEMENT

F

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

B281A

TERMINAL PAPER – SECTION A (Foundation Tier)

OCE/14066

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:
- Geometrical instruments
- Pie chart scale (optional)
- Tracing paper (optional)

Friday 15 January 2010
Morning

Duration: 1 hour

B281A

Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- 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.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

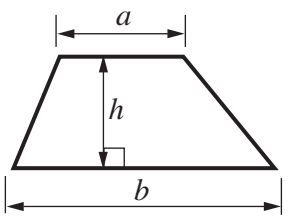
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this Section is **50**.
- This document consists of **12** pages. Any blank pages are indicated.

WARNING

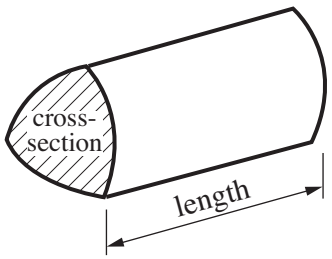
No calculator can be used for Section A of this paper

Formulae Sheet

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



Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

1 Work out.

(a) 302 – 147

(a) ..... **[2]**

(b) 3·4 × 100

(b) ..... **[1]**

(c) 68 × 3

(c) ..... **[1]**

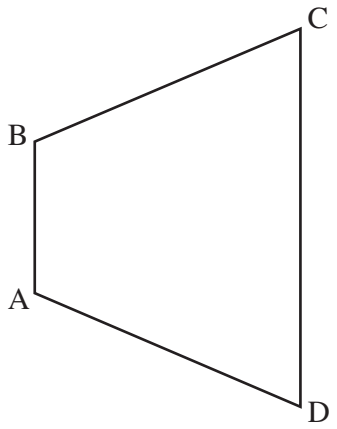
(d) $\frac{3}{5}$ of 45

(d) ..... **[2]**

(e) 340 ÷ 20

(e) ..... **[1]**

2 ABCD is an isosceles trapezium.



(a) Measure the length of the line AD in centimetres.

(a) .....cm **[1]**

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

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?

(a)(i) ..... **[1]**

(ii) The row for Australia is not complete.

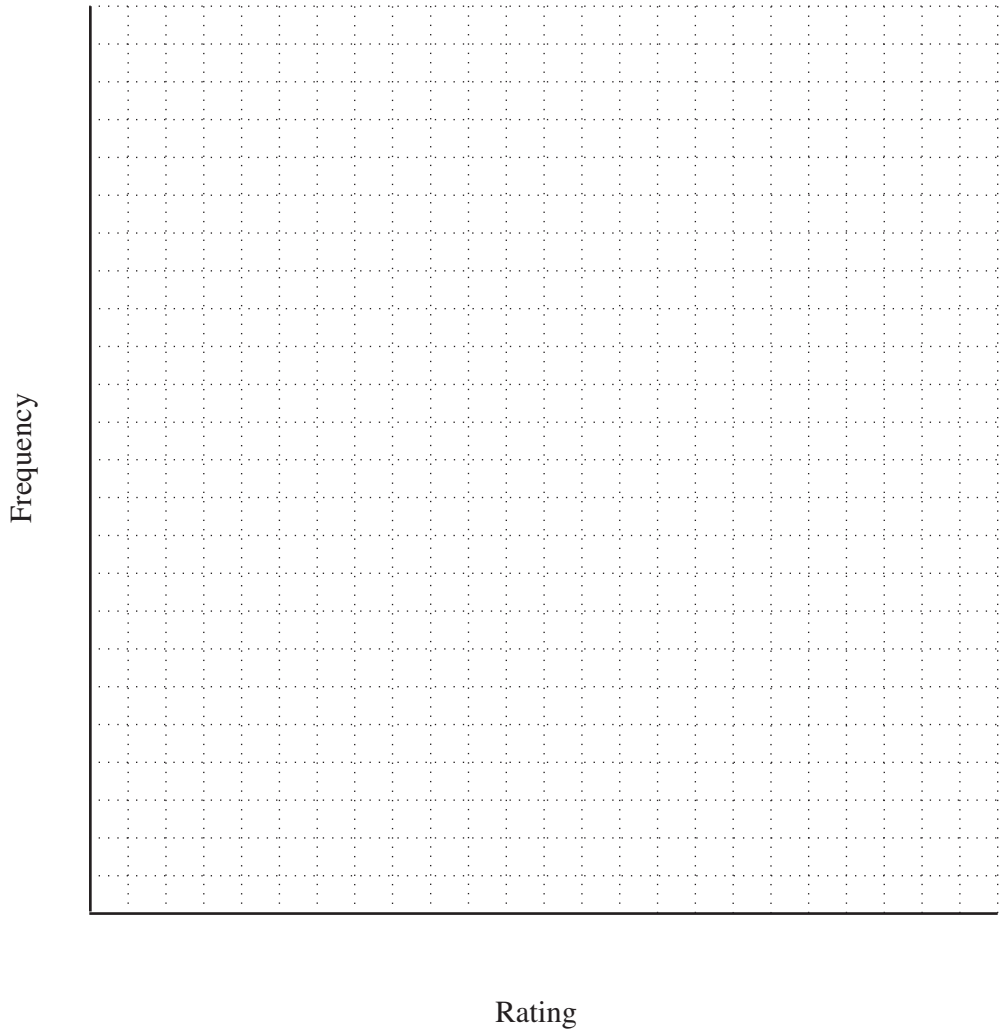
Work out how many people had been to Australia and show this on the pictogram. **[3]**

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

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

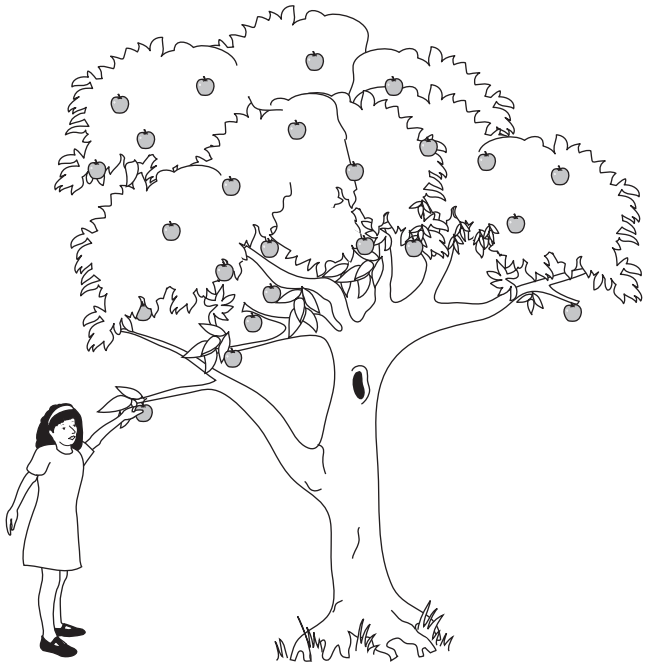
(i) Complete the frequency column. **[1]**

(ii) Draw a bar chart to show this information.



[4]

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.

I estimate that this apple weighs 100 ..... . **[1]**

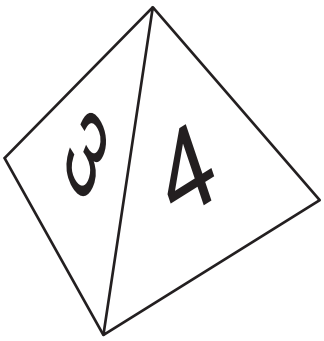
(b) Estimate the height of the tree, giving the correct **metric** unit.
Explain how you worked out your estimate.

I estimate that the height of the tree is ..... because .....

.....

..... **[3]**

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?

(a) ..... **[1]**

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

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

You may not need to use all the rows.

Coin	Dice
Head	1

[2]

(ii) What is the probability that Sam throws a head and an odd number?

(b)(ii) ..... **[2]**

6 **(a)** Simplify.

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

(a) ..... **[2]**

(b) Solve.

(i) $x - 4 = 9$

(b)(i) ..... **[1]**

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

(ii) ..... **[1]**

(iii) $2x + 3 > 15$

(iii) ..... **[2]**

7 Fill in the missing numbers in these patterns.

(a) $256 \times 10 = 2560$

$128 \times 20 = 2560$

$64 \times \ldots\ldots = 2560$

$\ldots\ldots \times \ldots\ldots = 2560$

$\ldots\ldots \times \ldots\ldots = 2560$ **[2]**

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

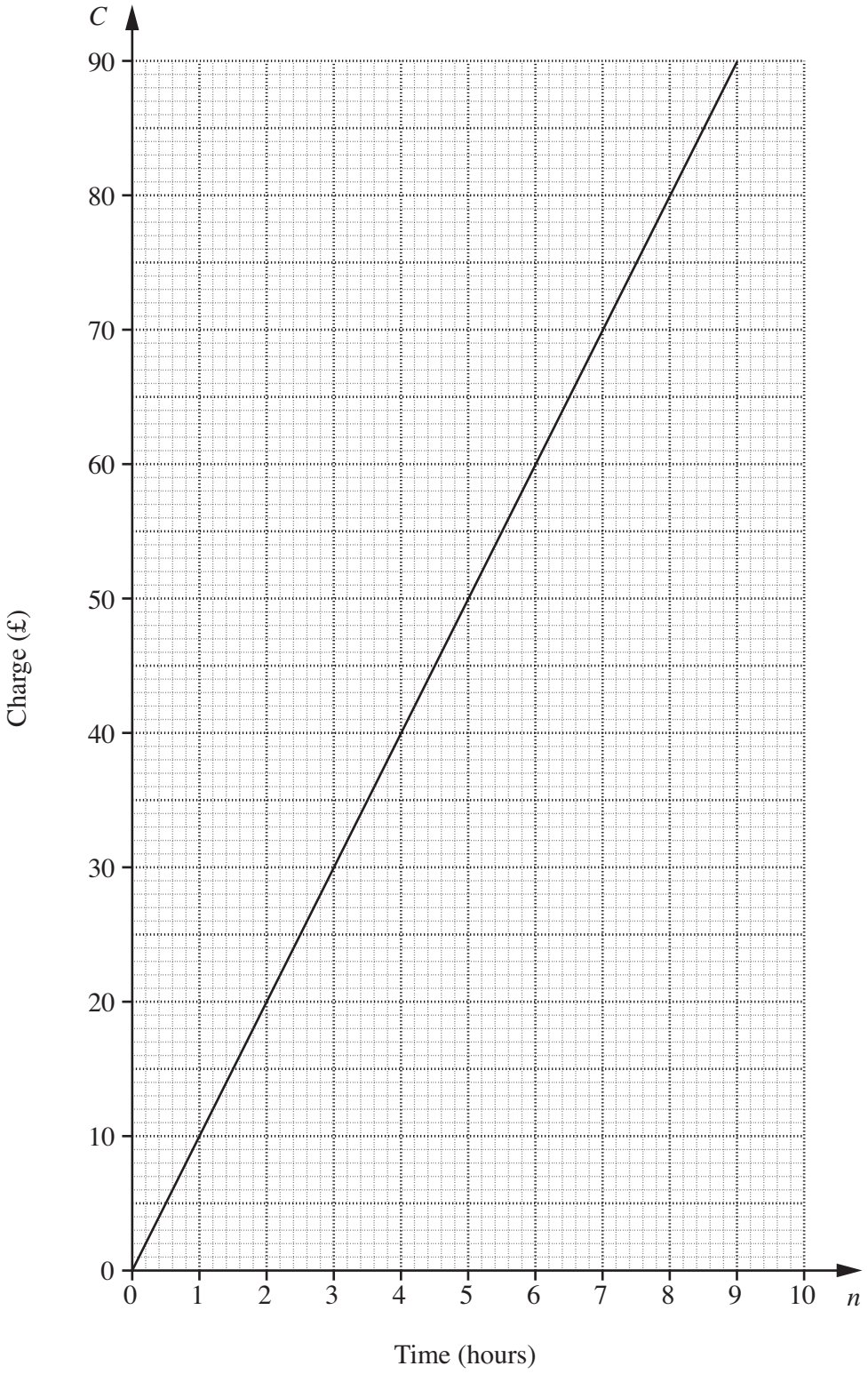
$8^2 - 7^2 = \ldots\ldots$

$7^2 - \ldots\ldots = \ldots\ldots$

$\ldots\ldots - \ldots\ldots = \ldots\ldots$ **[3]**

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

This graph shows how much *Cleanit!* charges for its cleaning services.



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

(a) £..... **[1]**

(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*.

n	1	5	10
C			

[1]

(ii) Draw the graph of the charges of *SpickandSpan* on the same grid as those for *Cleanit!*. **[2]**

(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?

(c) ..... by £ ..... **[2]**

TURN OVER FOR QUESTION 9

9 **(a)** Complete.

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

[2]

(b) Work these out.
Give your answers as mixed numbers.

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

(b)(i) ..... **[1]**

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

(ii) ..... **[3]**