

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)

TUESDAY 11 JANUARY 2011: Morning

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

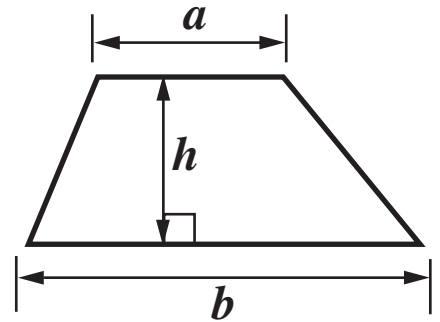
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**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

INFORMATION FOR CANDIDATES

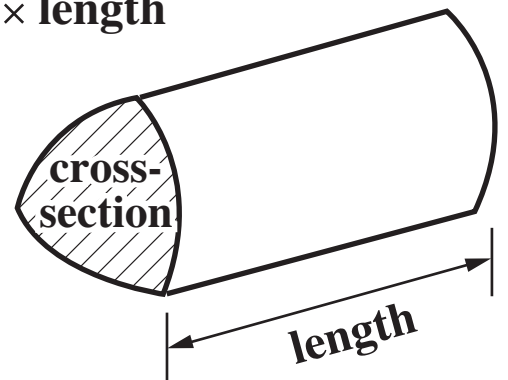
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 50.**

Formulae Sheet

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



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



1 (a) In the 2008 Olympic Games, Heather Fell won the silver medal in the Modern Pentathlon. She scored 5752 points.

(i) Write 5752 in words.

_____ [1]

(ii) The gold medallist scored 40 points more than Heather.

How many points did the gold medallist score?

(a)(ii) _____ [1]

(iii) The bronze medallist scored 80 points fewer than Heather.

How many points did the bronze medallist score?

(iii) _____ [1]

(b) This table shows how many medals were won by Great Britain in the 2008 Olympics.

Gold	19
Silver	13
Bronze	
Total	47

Complete the table by working out the number of Bronze medals.

[2]

**2 Draw lines connecting each shape to its correct name.
One has been done for you.**

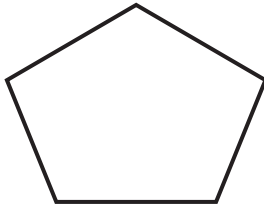


hexagon

parallelogram

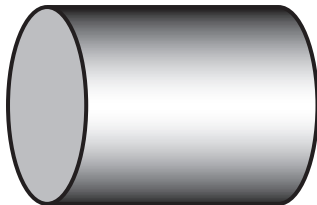


rhombus

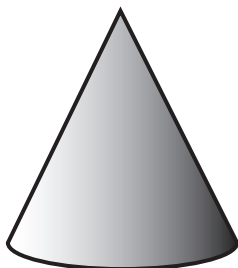


trapezium

pentagon



pyramid



cone




























cylinder

[4]

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TURN OVER FOR QUESTION 3

3 This pictogram shows how many sandwiches a shop sold one week.

Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						

Key:  represents 4 sandwiches

(a) On which day were the most sandwiches sold?

(a) _____ [1]

(b) How many sandwiches were sold on Wednesday?

(b) _____ [1]

(c) How many more sandwiches were sold on Friday than on Saturday?

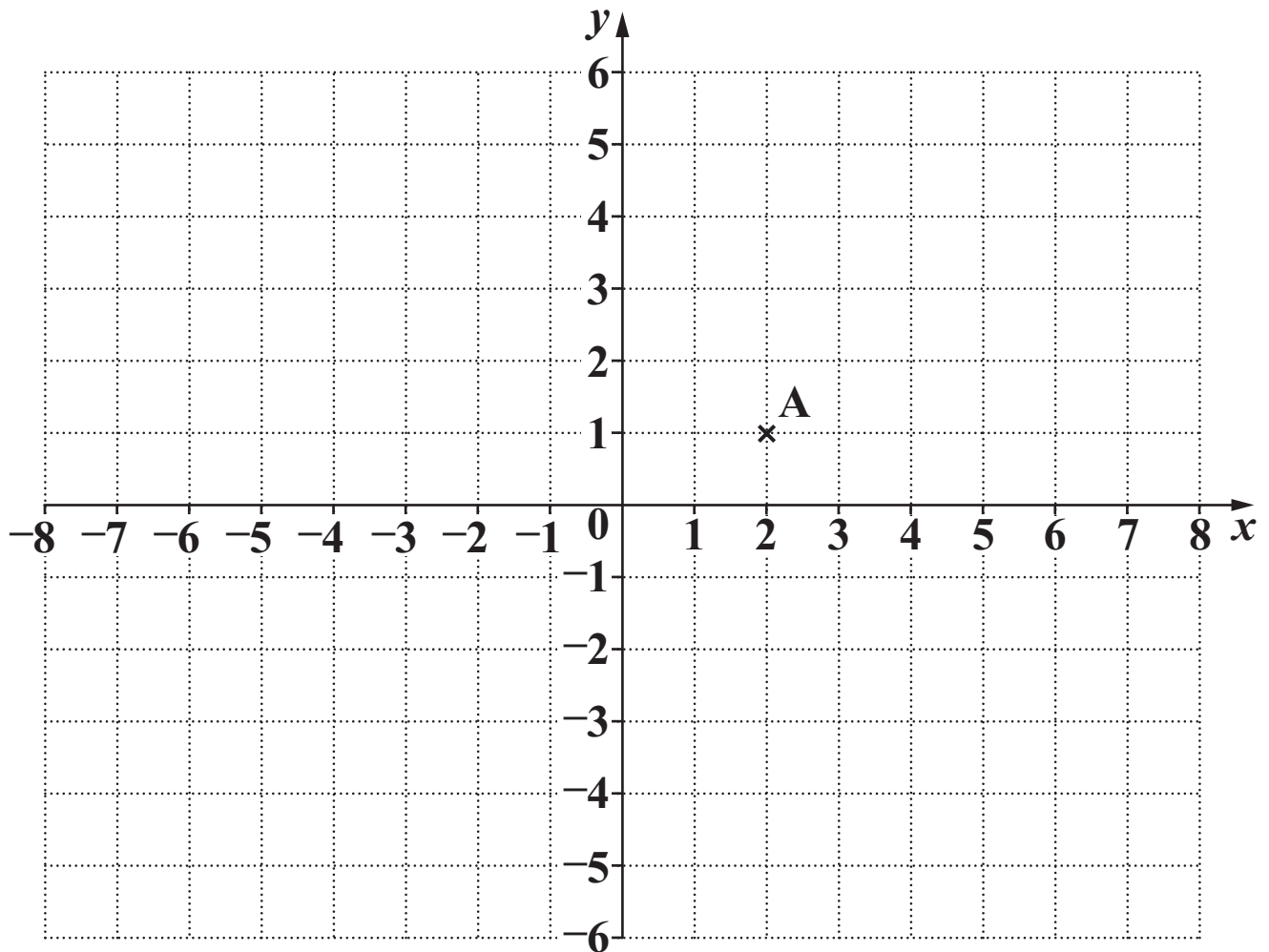
(c) _____ [1]

**(d) Fiona bought two sandwiches, each costing £1.98.
She paid with a £5 note.**

How much change did she get?

(d) £ _____ [2]

4 Here is a coordinate grid.



(a) Write down the coordinates of point A.

(a) (_____ , _____) [1]

**(b) Plot the point $(-3, -2)$.
Label it B.**

[1]

(c) (i) Mark on the diagram a point C so that ABC is an isosceles triangle.

[1]

(ii) Write down the coordinates of C.

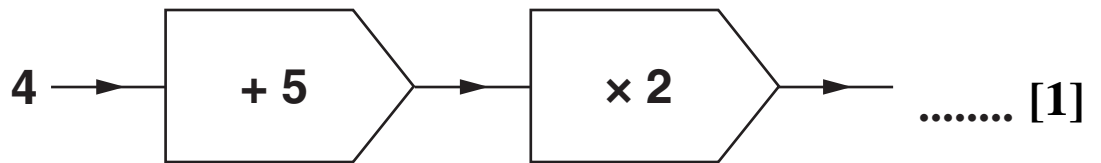
(c)(ii) (_____ , _____) [1]

5 (a) Find the outputs from these function machines.

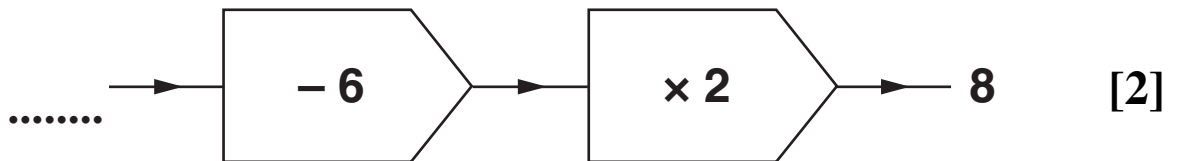
(i)



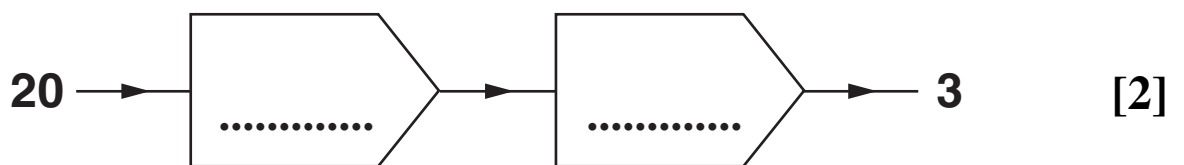
(ii)



(b) Find the input for this function machine.



(c) Complete this function machine so that the input gives the correct output.



- 6 (a) Tickets to watch a tennis tournament cost £5.85.
317 people paid to watch the tournament.**

**ESTIMATE the total paid for the tickets.
Show the estimates you use.**

(a) _____ × _____ = £ _____ [2]

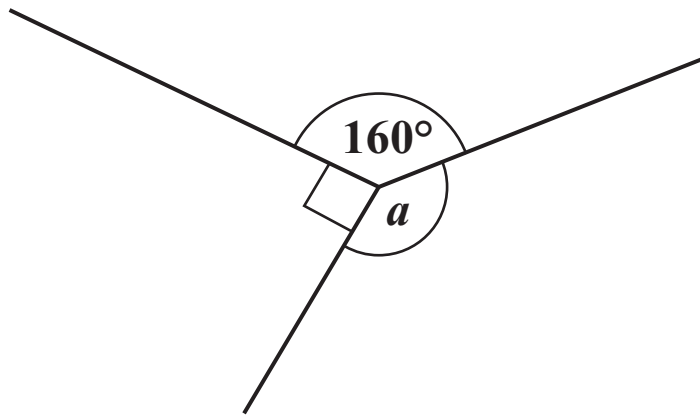
- (b) The tournament used 37 boxes of tennis balls.
Each box of balls cost £14.**

Work out the EXACT total cost of the balls for the tournament.

You must show your working.

(b) £ _____ [3]

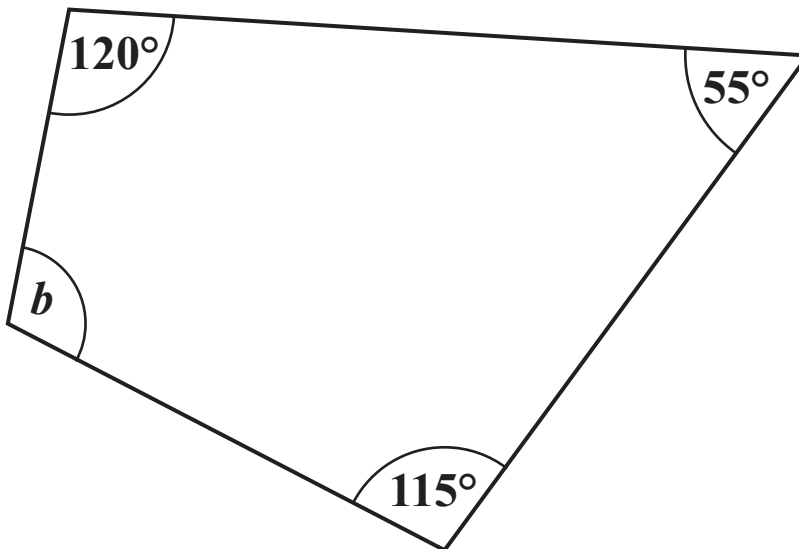
- 7 (a) Find the size of angle a in the diagram below.
Give a reason for your answer.



Not to scale

$a =$ _____ $^{\circ}$ because _____
_____ [2]

- (b) Find the size of angle b in the diagram below.
Give a reason for your answer.



Not to scale

$b =$ _____ $^{\circ}$ because _____
_____ [2]

- 8 A pizza shop gives a 15% discount if the customer collects the pizza.
The price of a Hawaiian pizza is £8.40.
Jane decides to collect the pizza.**

Work out how much Jane pays for the pizza.

£ _____ [3]

9 These are the pulse rates, in beats per minute, of 20 members of an exercise class at the start of a session.

92 85 77 52 61 86 58 82 72 73
64 75 76 77 90 87 88 83 72 69

(a) Construct an ORDERED stem and leaf table for the data.

Key _____ **[3]**

(b) (i) Find the median and range of the pulse rates at the start of the session.

(b)(i) median _____ beats per minute

range _____ beats per minute [3]

- (ii) The pulse rates of the same 20 members were also recorded at the end of the session.
The median was 81 beats per minute and the range was 40 beats per minute.

Make two comments comparing their pulse rates at the start and end of the session.

1 _____

2 _____

_____ [2]

TURN OVER FOR QUESTION 10

- 10** A stone is thrown vertically upwards.
Its height is given by this formula.

$$h = 30t - 5t^2$$

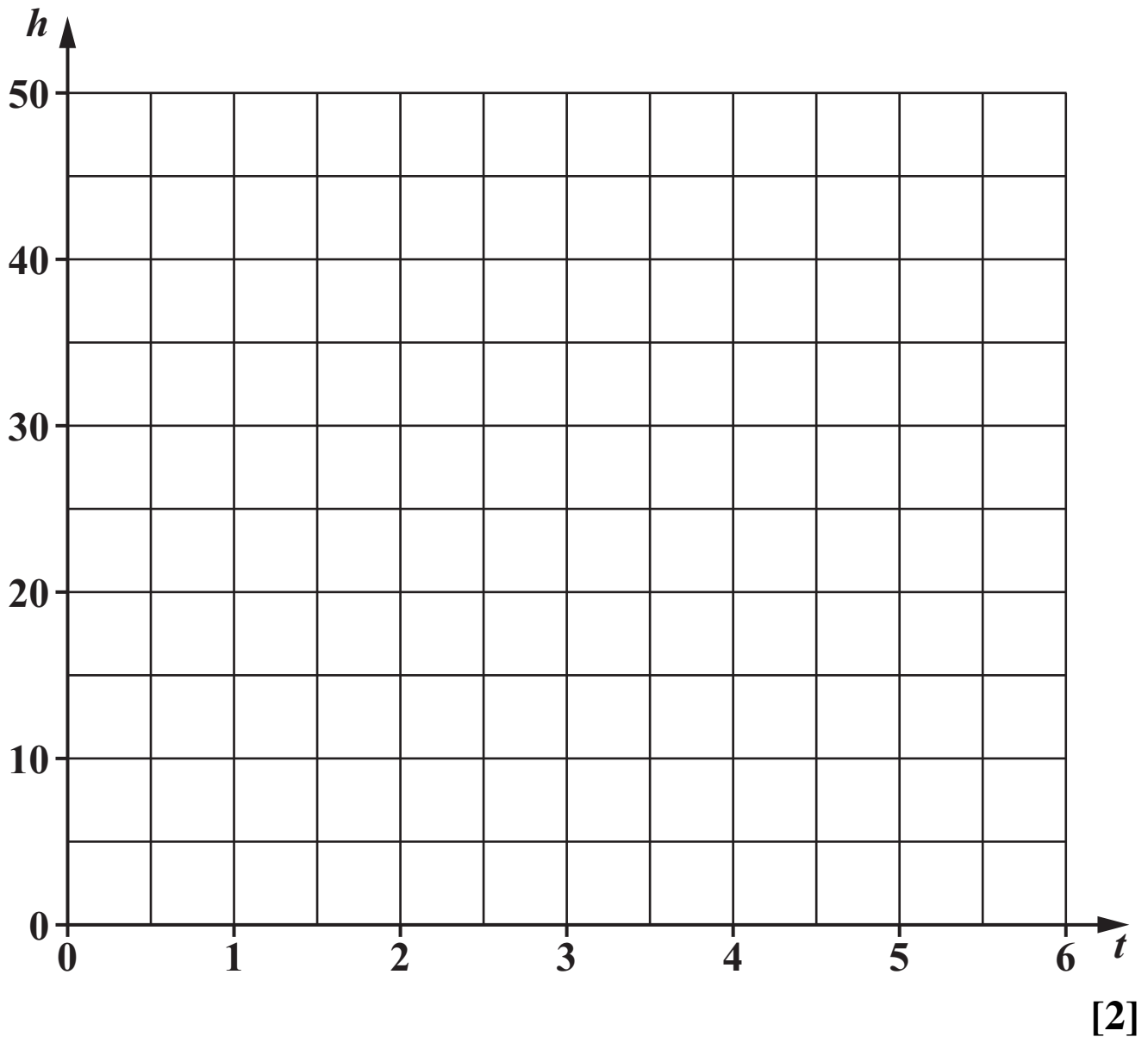
h is the height above the ground in metres, t seconds after it is thrown.

- (a) Complete the table for $h = 30t - 5t^2$.

t	0	1	2	3	4	5	6
h	0			45			0

[2]

(b) (i) Draw the graph of $h = 30t - 5t^2$.



(ii) Find the values of t when the stone is 20 m above the ground.

(b)(ii) _____ [2]

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