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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 6 JUNE 2011: 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

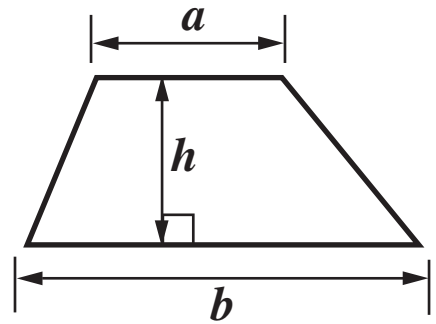
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**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

INFORMATION FOR CANDIDATES

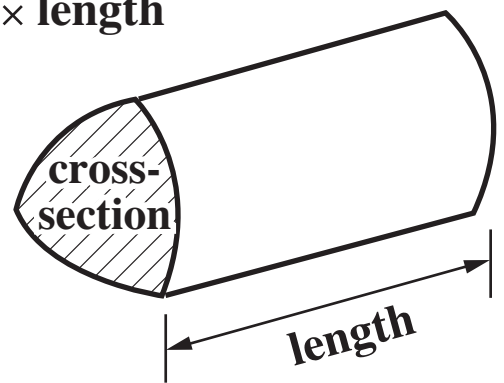
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 50.**

FORMULAE SHEET

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



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



- 1 (a) The new Wembley stadium covers an area of 103 000 m².**

Write 103 000 in words.

_____ [1]

- (b) To collect a cup, a winning team now has to climb 107 steps.
In the old stadium they climbed 39 steps.**

How many more steps does the team climb now than in the old stadium?

(b) _____ [1]

- (c) The stadium contains 2618 toilets.**

Write 2618 correct to the nearest ten.

(c) _____ [1]

(d) There are 90 000 seats spread over three tiers.

Lower tier	34 303
Middle tier	16 532
Upper tier	39 165

Which tier has the most seats?

(d) _____ tier [1]

(e) Mary and Peter take their child, Sam, for a tour of Wembley stadium.

(i) An adult ticket costs £15 and a child ticket costs £8 for the tour.

How much do they pay altogether for the tour?

(e)(i) £ _____ [2]

- (ii) Their tour lasts 90 minutes.
They start their tour at 10:15 am.**

At what time do they finish their tour?

(ii) _____ [2]

2 (a) Write 30% as a decimal.

(a) _____ [1]

(b) Write $\frac{3}{5}$ as a percentage.

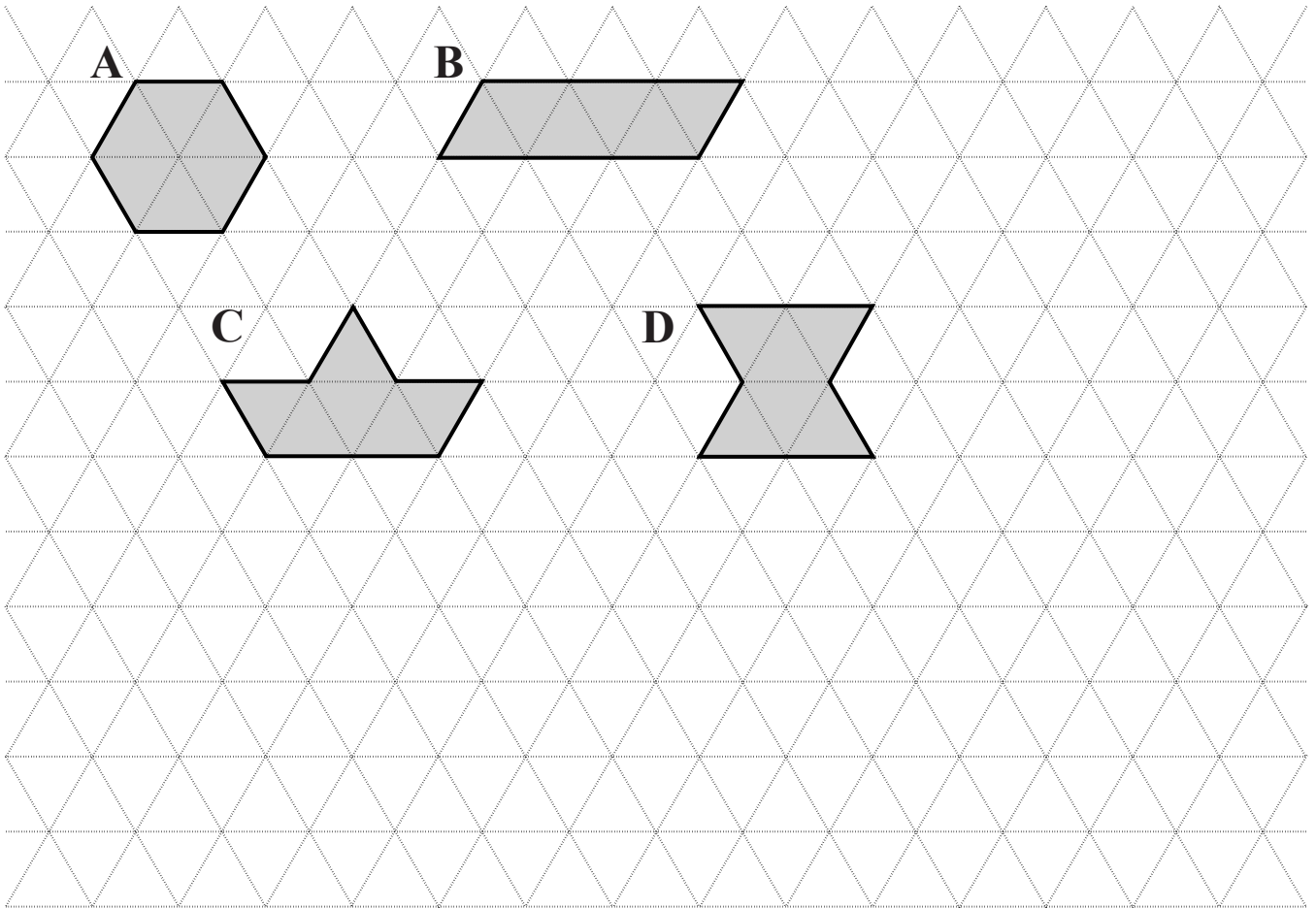
(b) _____ % [1]

**(c) Jan earns £42 in her Saturday job.
She saves 20% of this.**

Work out how much she saves.

(c) £ _____ [2]

3 These shapes are each made from 6 triangles.



(a) What is the special mathematical name for

(i) shape A,

(a)(i) _____ [1]

(ii) shape B?

(ii) _____ [1]

(b) Shape C has one line of symmetry.

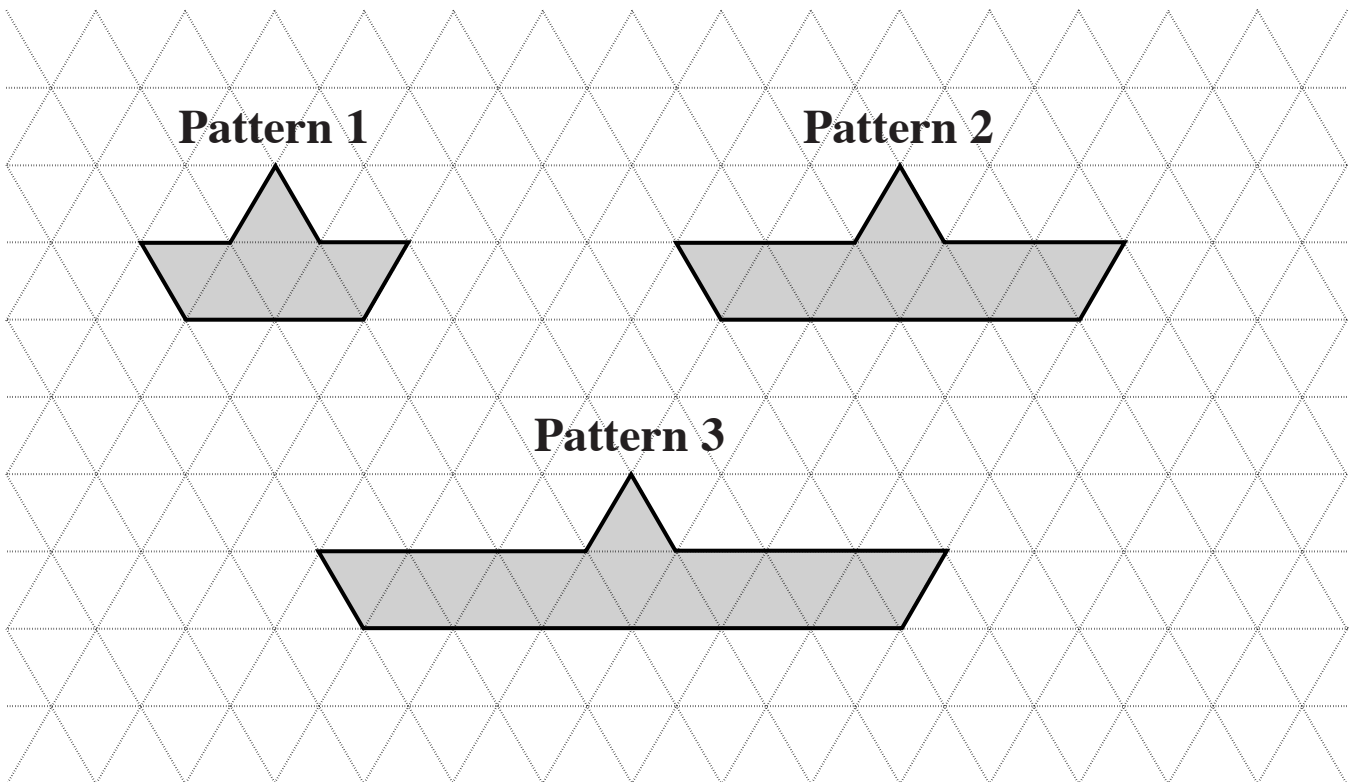
On the grid draw a different shape made from 6 triangles, which has just one line of symmetry. (Reflections or rotations of shape C will not count as different.)

[1]

(c) State the order of rotation symmetry of shape D.

(c) _____ [1]

(d) Here are the first three patterns in a sequence made from triangles.



This table shows how many triangles there are in each pattern.

Pattern number	1	2	3
Number of triangles in the pattern	6	10	

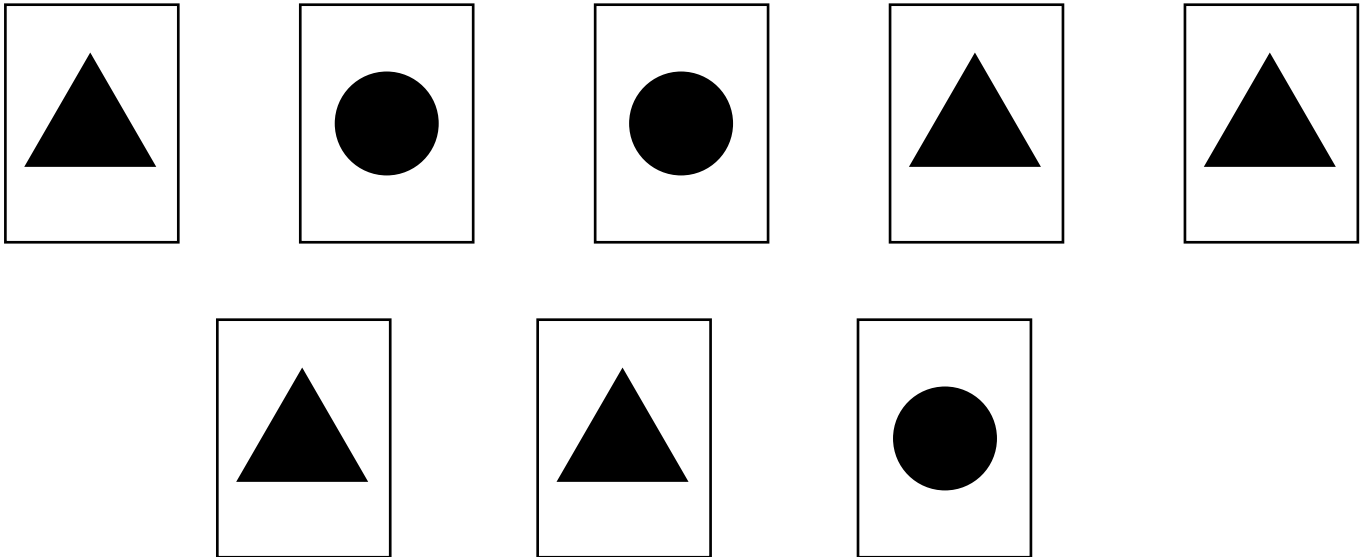
(i) Complete the table for Pattern 3.

[1]

- (ii) How many triangles are there in Pattern 6?
Explain how you decided.**

_____ triangles because _____
_____ [2]

4 (a) Trish has these 8 cards.



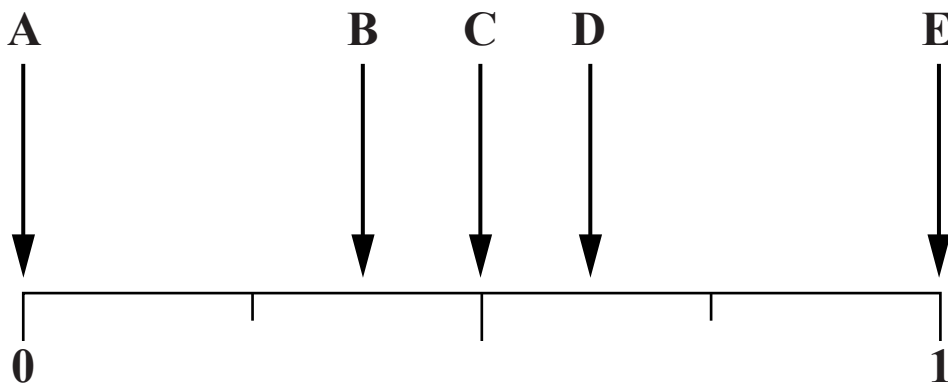
Trish picks up one of these cards without looking.
She says:

There are two shapes, so there is an evens chance that I pick a card with a triangle.

(i) Explain why Trish is wrong.

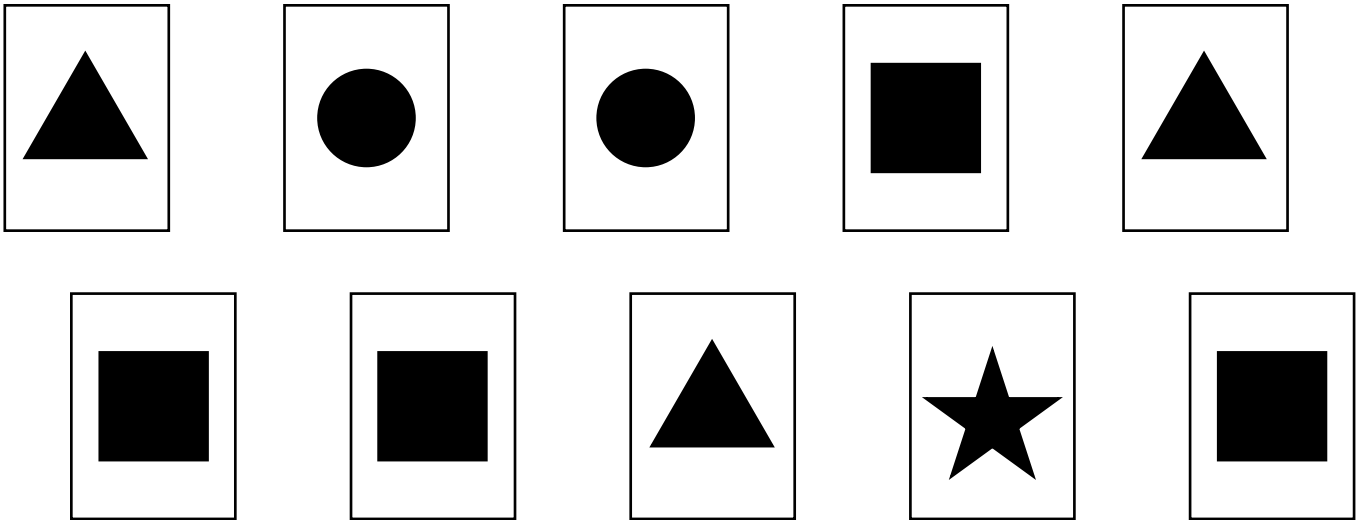
[1]

(ii) Which of these arrows shows the probability that Trish picks a card with a circle?



(a)(ii) _____ [1]

(b) Jojo has these ten cards.



Jojo picks up one of these cards without looking.

What is the probability that he picks

(i) a card with a triangle,

(b)(i) _____ [1]

(ii) a card that does not have a triangle,

(ii) _____ [1]

(iii) a card with  on it?

(iii) _____ [1]

5 (a) Simplify.

(i) $7x + x - 6x$

(a)(i) _____ [1]

(ii) $3c + 5d + 2c - 4d$

(ii) _____ [2]

(b) Solve.

(i) $x - 5 = 12$

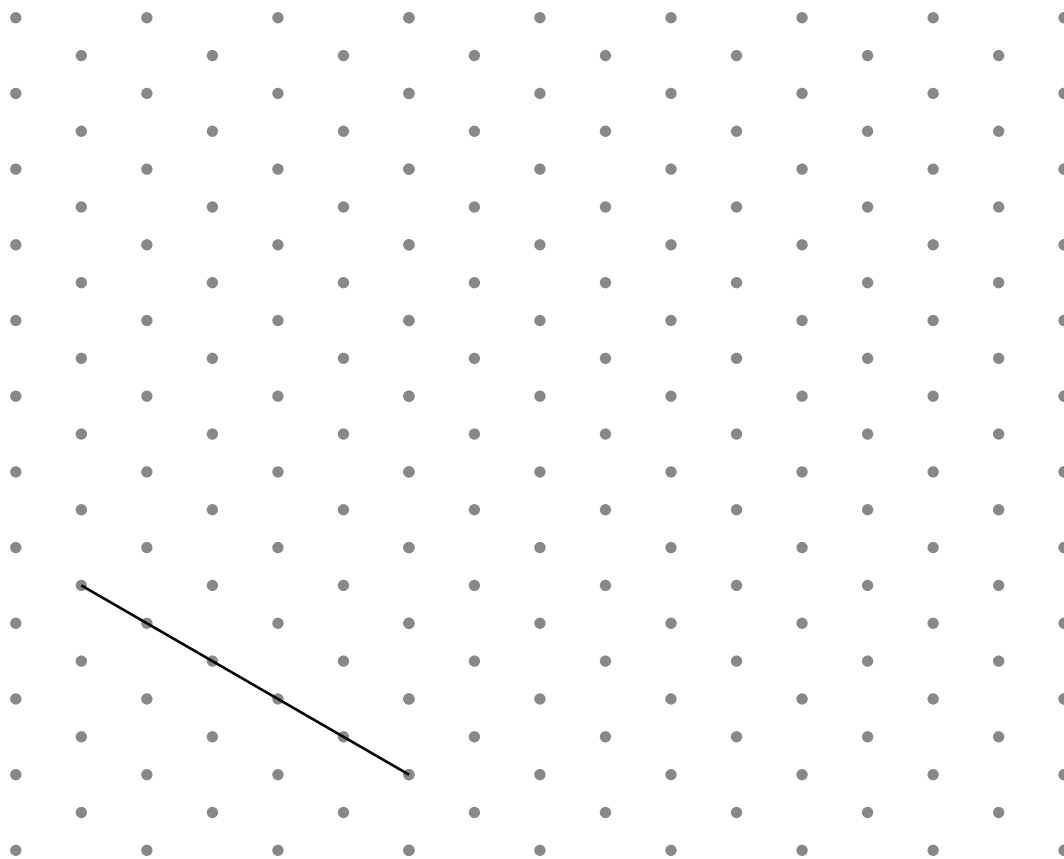
(b)(i) _____ [1]

(ii) $2x - 1 = 8$

(ii) _____ [2]

6 A cuboid measures 5 cm by 4 cm by 3 cm.

**(a) Complete this isometric drawing of the cuboid.
One edge has been drawn for you.**



[2]

**(b) Work out the volume of the cuboid.
Give the units of your answer.**

(b) _____ [3]

7 Work out.

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

(a) _____ [2]

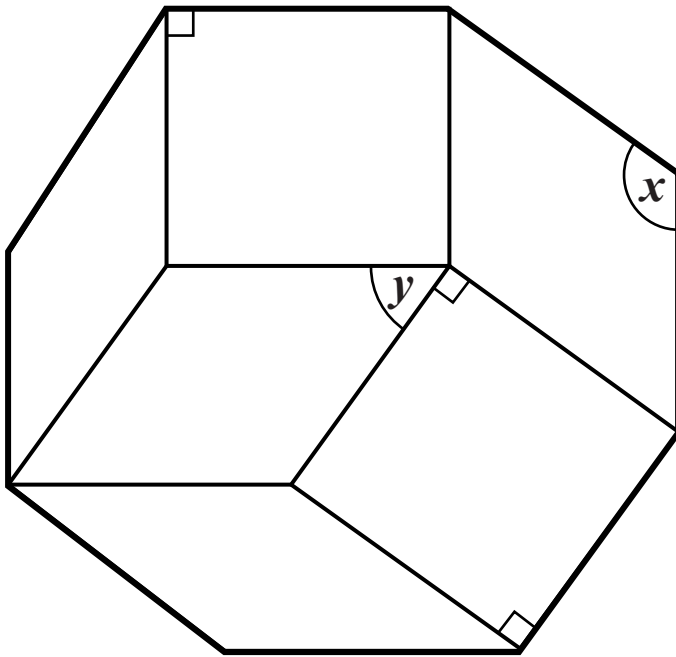
(b) $-6 + 4$

(b) _____ [1]

(c) -3×-5

(c) _____ [1]

- 8 A regular octagon is divided into 2 congruent squares and 4 congruent rhombuses.



NOT TO SCALE

Work out the sizes of angles x and y .

$$x = \underline{\hspace{2cm}}^\circ$$

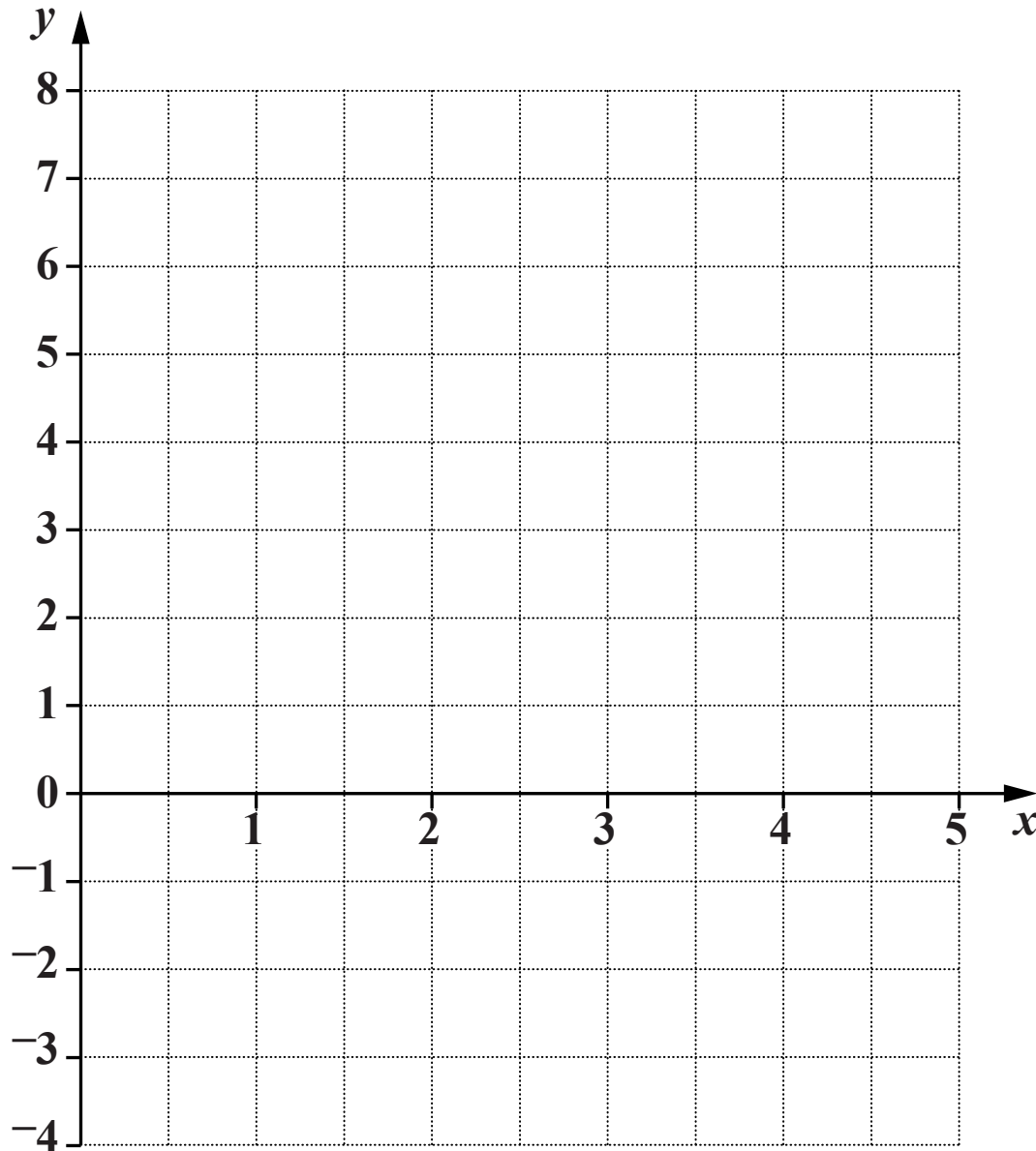
$$y = \underline{\hspace{2cm}}^\circ [4]$$

9 (a) Complete this table for $y = 6 - 2x$.

x	0	2	4
y			-2

[2]

(b) Draw the graph of $y = 6 - 2x$.



[2]

10 Work out.

$$4\frac{1}{3} - 1\frac{4}{5}$$

Give your answer as a mixed number.

_____ [3]



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