

Drawing Straight Line Graphs

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You **can** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

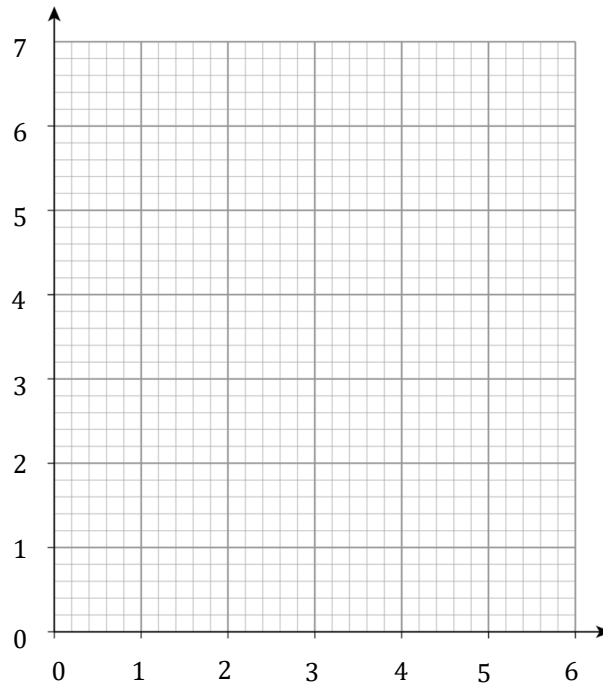
- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

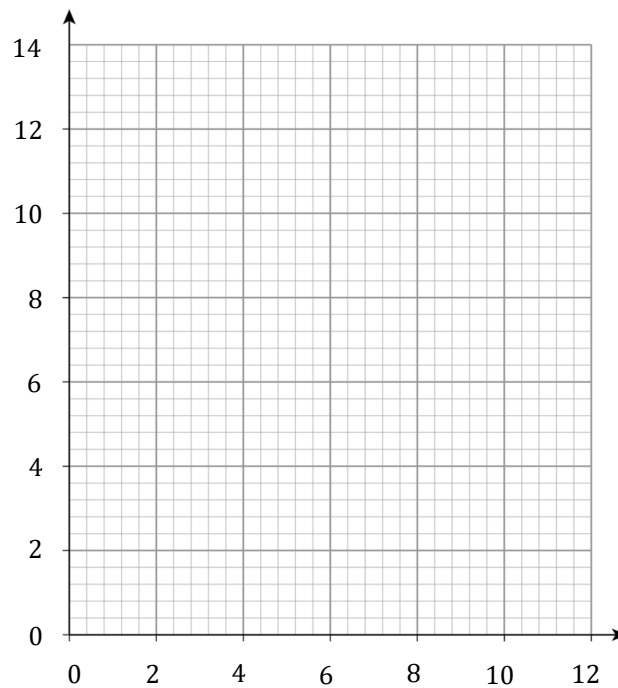
- 1 On the axes below, draw the straight line with y -intercept 1, and gradient 2.

[3 marks]



- 2 On the axes below, draw the line $y = 3x + 2$

[3 marks]



Turn over for next question

Turn over ►

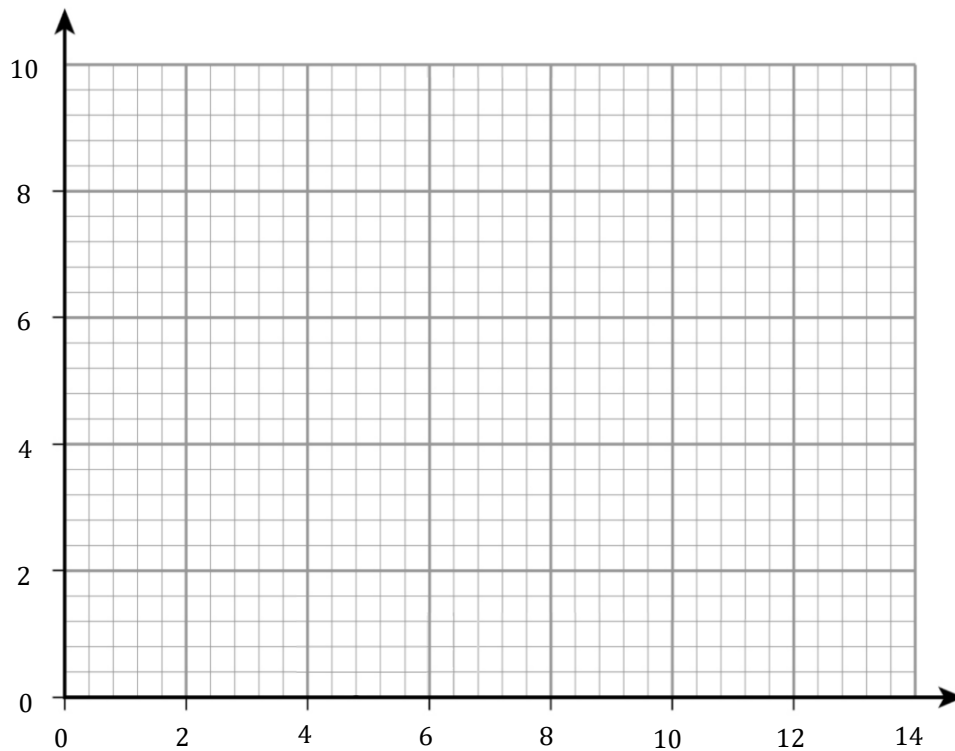
3 A relationship between x and y is described as follows:

For every increase in x , y increases by $\frac{1}{2}$ of x

Fill in the rest of the xy – table and use this to plot the straight line on the axes below.

[4 marks]

x	y
	2
4	4
	6
	8



Turn over for next question

Turn over ►

4(a) On the square grid below plot the following lines:

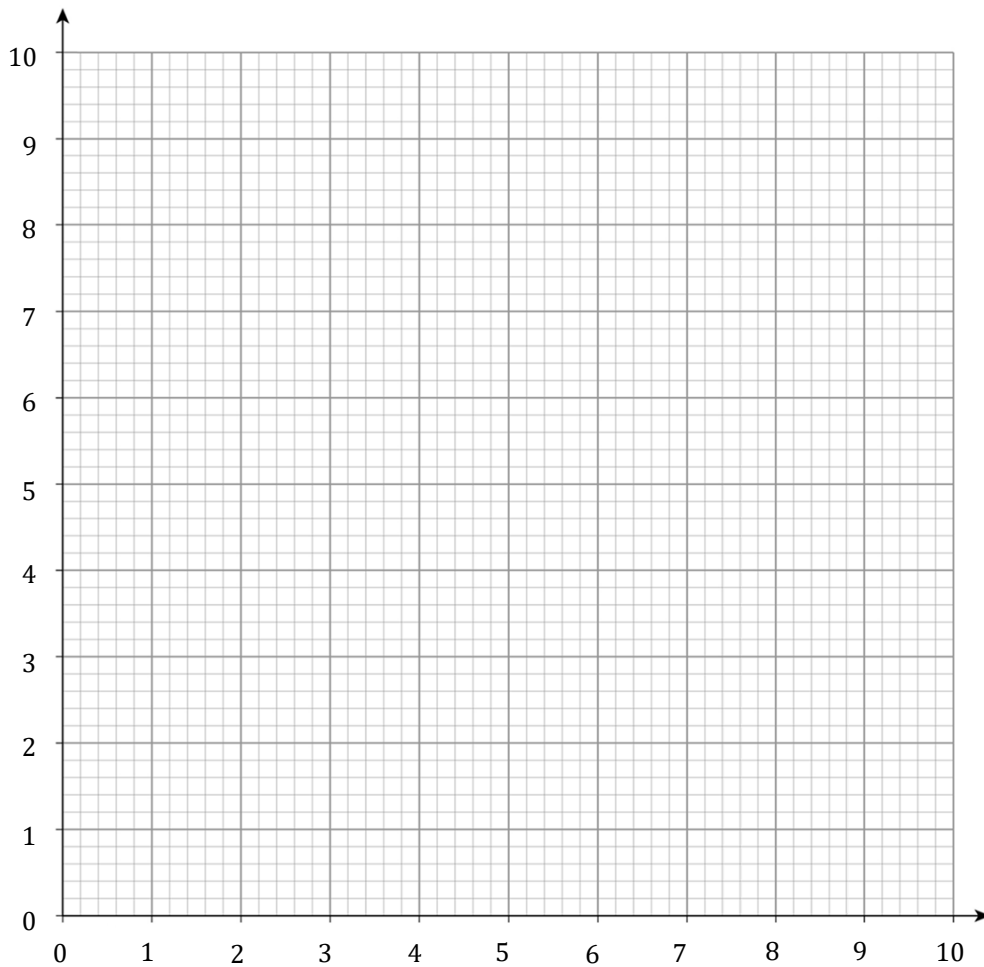
$$x = 3$$

$$y = 1$$

$$x = 7$$

$$y = 6$$

[4 marks]



4(b) What is the area of the shape bounded by the four lines?

[1 mark]

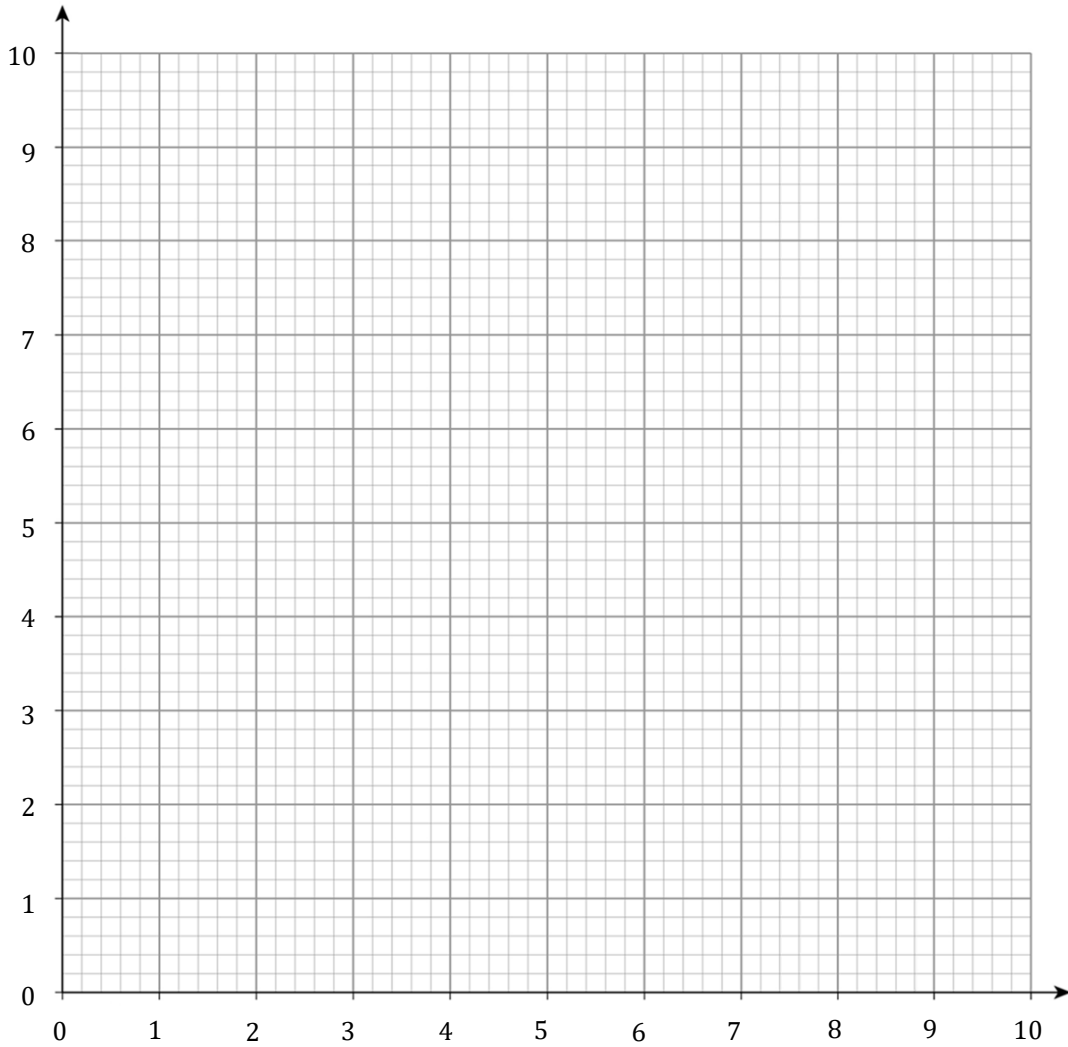
Answer _____

Turn over for next question

Turn over ►

5 By rearrangement or otherwise, draw the line $y + 2x - 10 = 0$ on the grid below.

[3 marks]

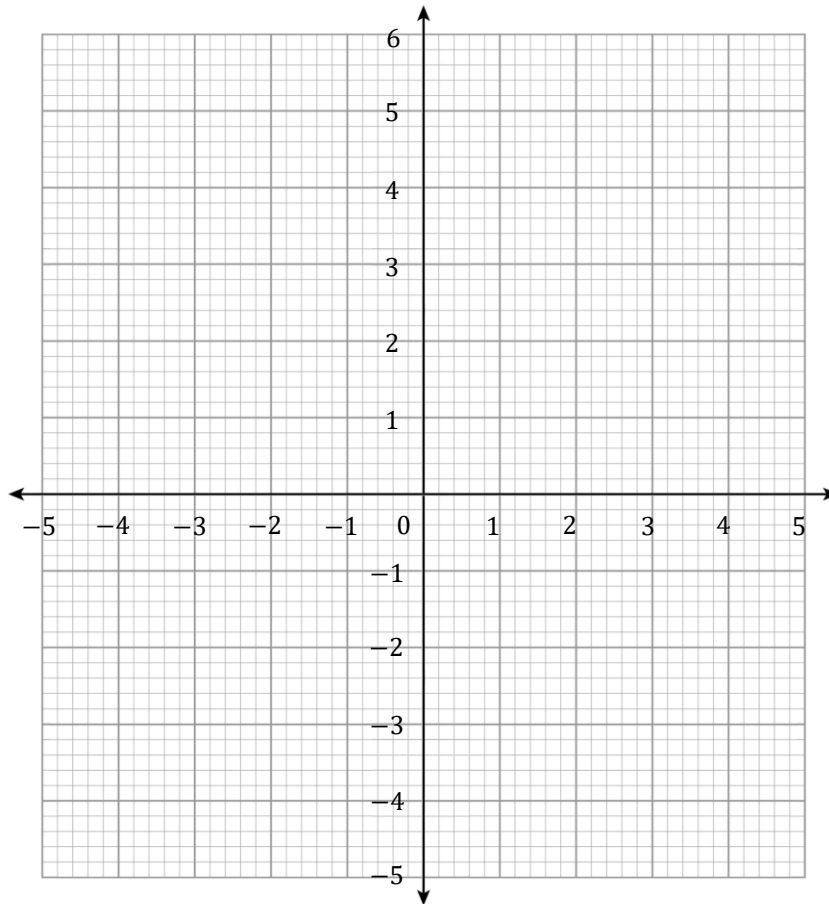


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6

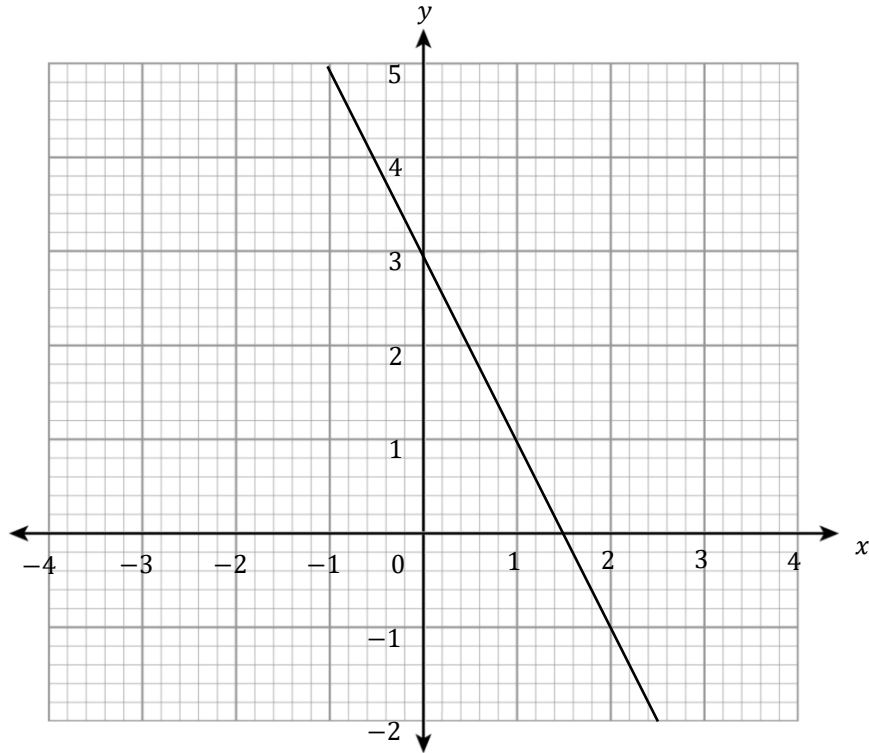
The x -intercept of a line with gradient $\frac{1}{2}$ is 3.

By drawing the line on the axes below, find the y -intercept.

[2 marks]

Turn over ►

- 7 Adam draws the line $y - 2x = 3$ on the axes below but makes an error.



- 7(a) Describe the error Adam has made.

[1 mark]

- 7(b) What line has he actually plotted?

[1 mark]

Answer _____

- 7(c) Plot the correct graph of the line $y - 2x = 3$ on the same axes.

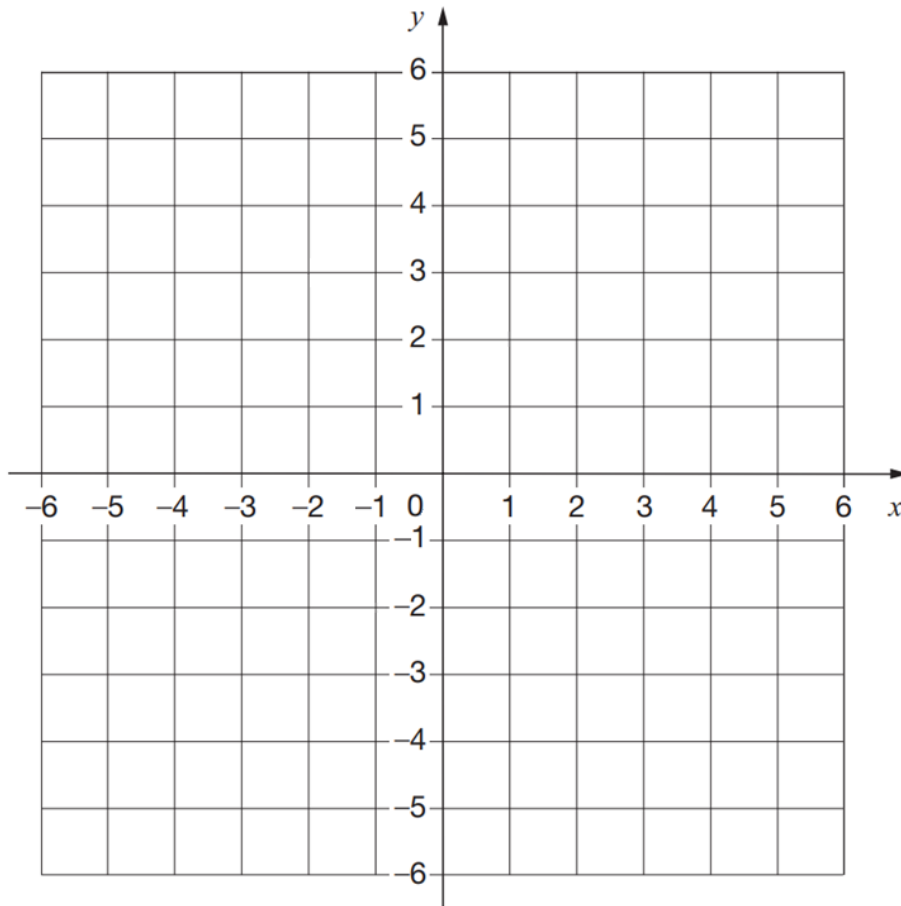
[2 marks]

Turn over for next question

Turn over ►

8(a) Plot the graphs of $y = \frac{1}{2}x + 3$ and $y = \frac{3}{2}x - 3$ on the axes below.

[4 marks]



8(b) What is the point of intersection of the two lines?

[1 mark]

Answer _____



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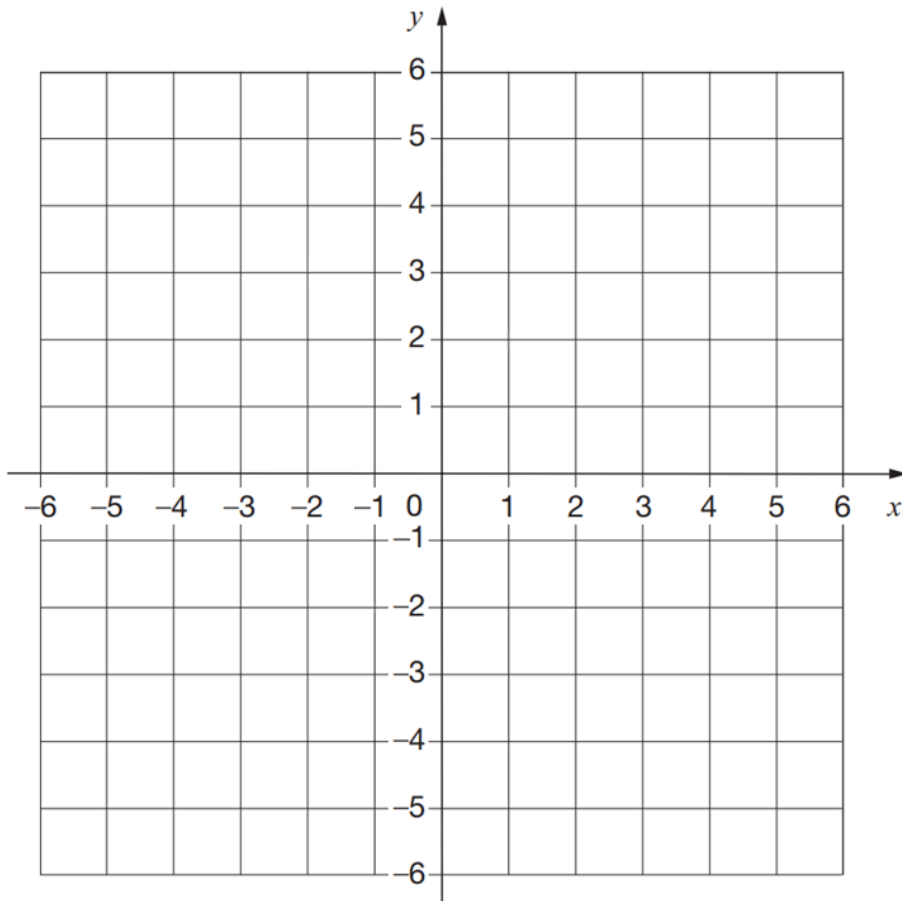
9(a) On the axes below, draw the lines

$$x = -3$$

$$y = 3$$

$$2y = x + 1$$

[4 marks]



9(b) Write down a point inside the region that is bounded by your three lines.

[1 mark]

Answer _____

End of Questions