



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Straight-Line Graphs · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Straight-Line Graphs

Total marks available: 81

● Straight-Line Graphs

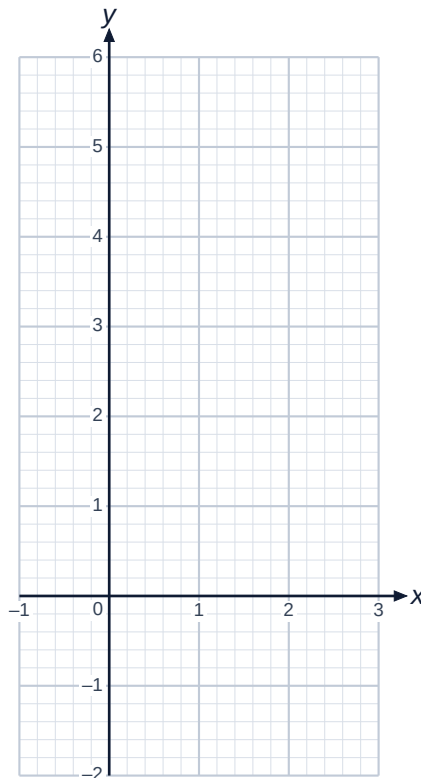
Q1

[2 marks]

Here is a table of values for $y = 2x$.

On the grid, draw the graph of $y = 2x$ for values of x from -1 to 3 .

x	-1	0	1	2	3
y	-2	0	2	4	6



Q2

[2 marks]

A straight line has equation $y = -2x - 2$.

- (a) Write down the gradient of the line.
(b) Write down the y -intercept of the line.

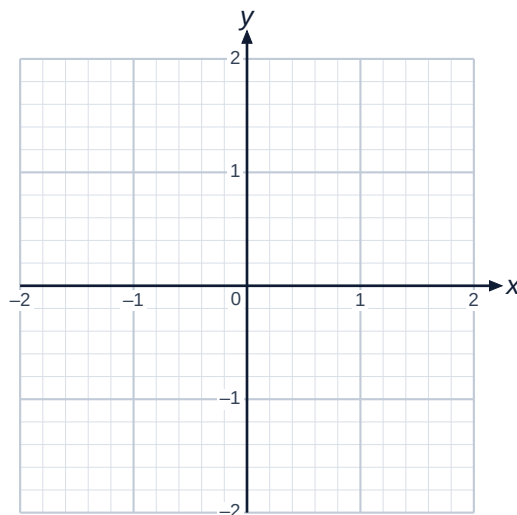
Q3

[2 marks]

Here is a table of values for $y = -x$.

On the grid, draw the graph of $y = -x$ for values of x from -2 to 2 .

x	-2	-1	0	1	2
y	2	1	0	-1	-2



Q4

[2 marks]

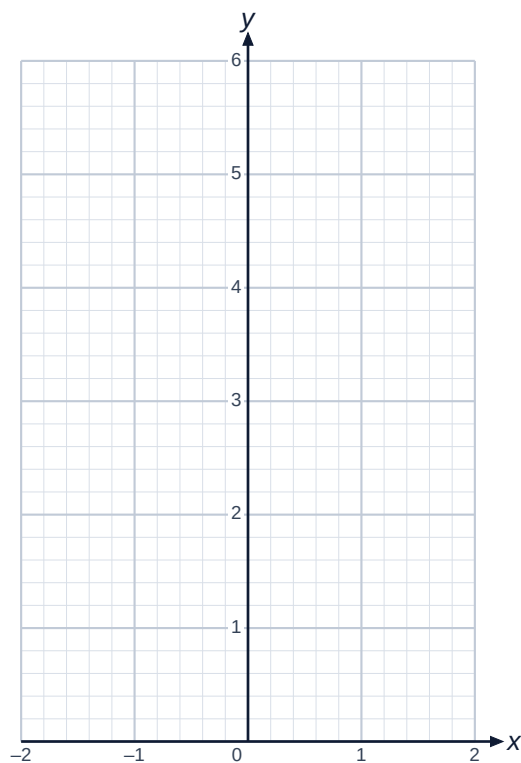
Point A is (3, 11) and point B is (11, 5).
Work out the coordinates of the midpoint of AB.

Q5

[2 marks]

Here is a table of values for $y = x + 4$.
On the grid, draw the graph of $y = x + 4$ for values of x from -2 to 2 .

x	-2	-1	0	1	2
y	2	3	4	5	6



Q6

[2 marks]

A straight line has equation $y = -7 + 3x$.

- (a) Write down the gradient of the line.
(b) Write down the y -intercept of the line.

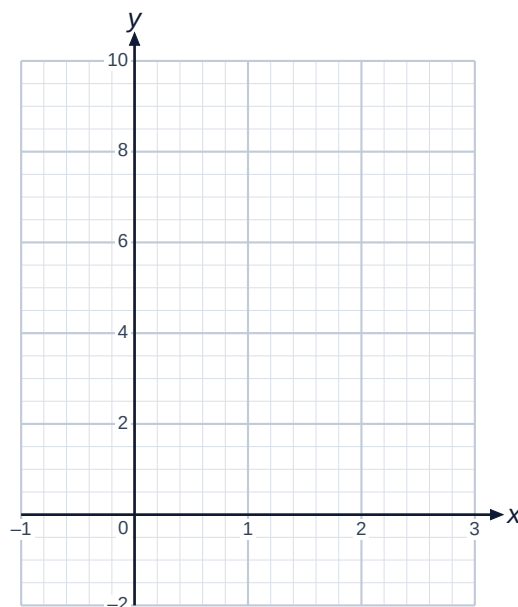
Q7

[2 marks]

Here is a table of values for $y = 3x + 1$.

On the grid, draw the graph of $y = 3x + 1$ for values of x from -1 to 3 .

x	-1	0	1	2	3
y	-2	1	4	7	10



Q8

[2 marks]

Point A is (5, 6) and point B is (1, 10).
Work out the coordinates of the midpoint of AB.

Q9

[2 marks]

A straight line has equation $y = 5 + 6x$.
(a) Write down the gradient of the line.
(b) Write down the y -intercept of the line.

Q10

[2 marks]

Point A is $(6, 12)$ and point B is $(-2, 4)$.
Work out the coordinates of the midpoint of AB.

Q11

[2 marks]

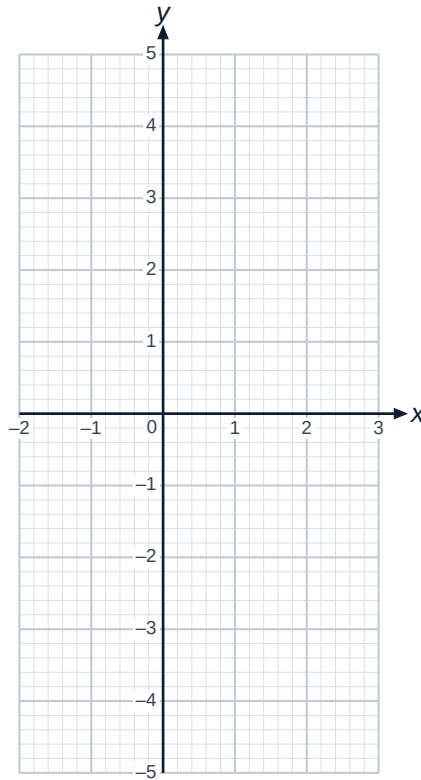
Work out the gradient of the straight line through $(5, 19)$ and $(1, 7)$.

Q12

[4 marks]

- (a) Complete the table of values for $y = -2x + 1$.
(b) On the grid, draw the graph of $y = -2x + 1$ for values of x from -2 to 3 .

x	-2	-1	0	1	2	3
y	5	3				-5

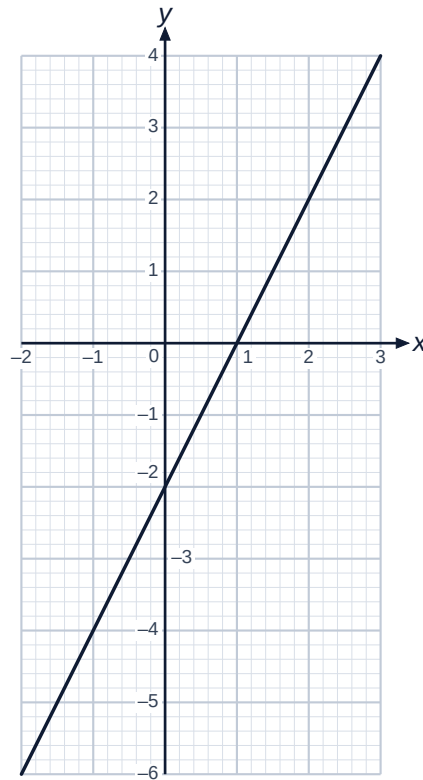


Q13

[3 marks]

A straight line is drawn on the grid.

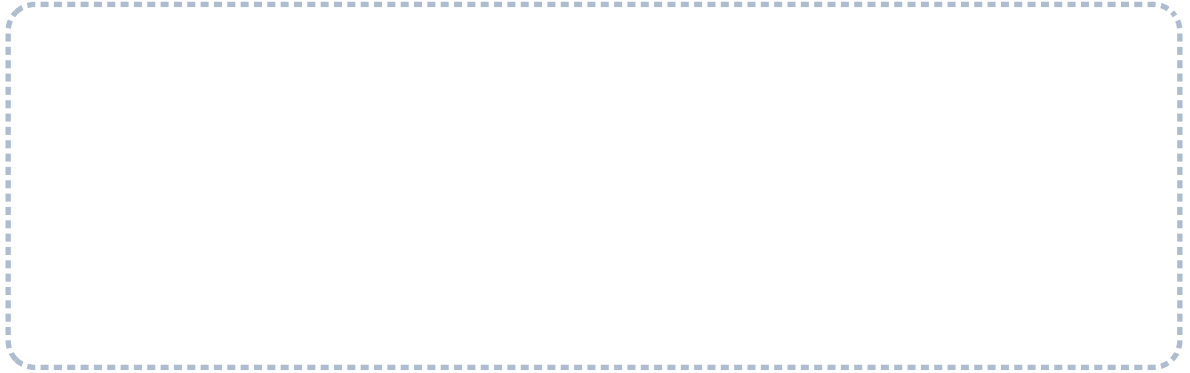
- (a) Write down the y -intercept of the line.
- (b) Work out the gradient of the line.
- (c) Write down the equation of the line.



Q14

[2 marks]

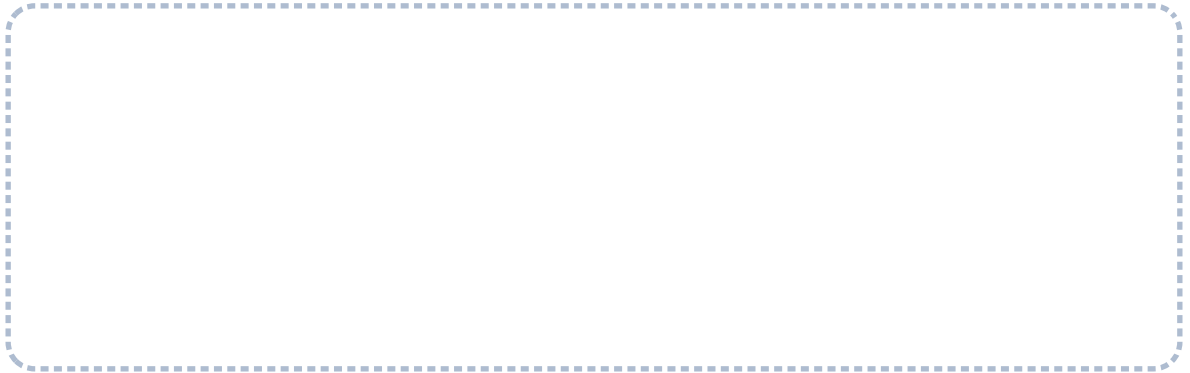
Work out the gradient of the straight line through (4, 4) and (5, 6).



Q15

[2 marks]

Work out the gradient of the straight line through (0, 8) and (4, 20).

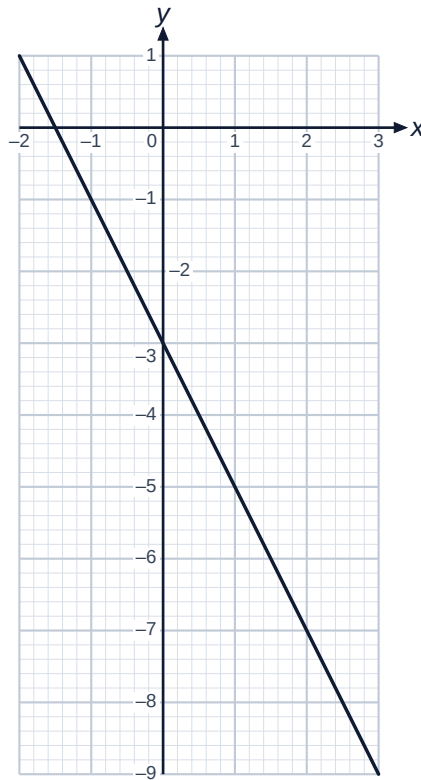


Q16

[3 marks]

A straight line is drawn on the grid.

- (a) Write down the y -intercept of the line.
- (b) Work out the gradient of the line.
- (c) Write down the equation of the line.

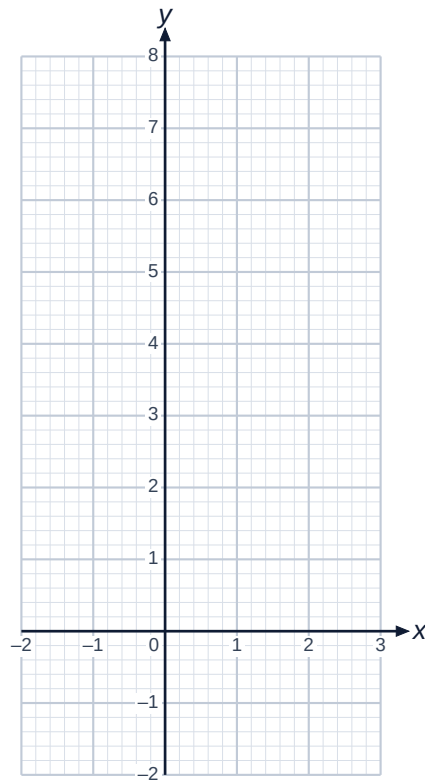


Q17

[4 marks]

- (a) Complete the table of values for $y = -2x + 4$.
(b) On the grid, draw the graph of $y = -2x + 4$ for values of x from -2 to 3 .

x	-2	-1	0	1	2	3
y	8	6		2		



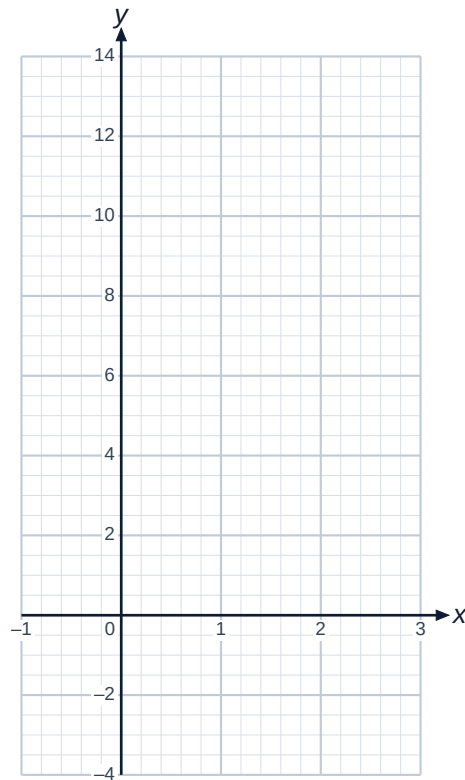
Q18

[4 marks]

(a) Complete the table of values for $y = 4x + 1$.

(b) On the grid, draw the graph of $y = 4x + 1$ for values of x from -1 to 3 .

x	-1	0	1	2	3
y	-3				13

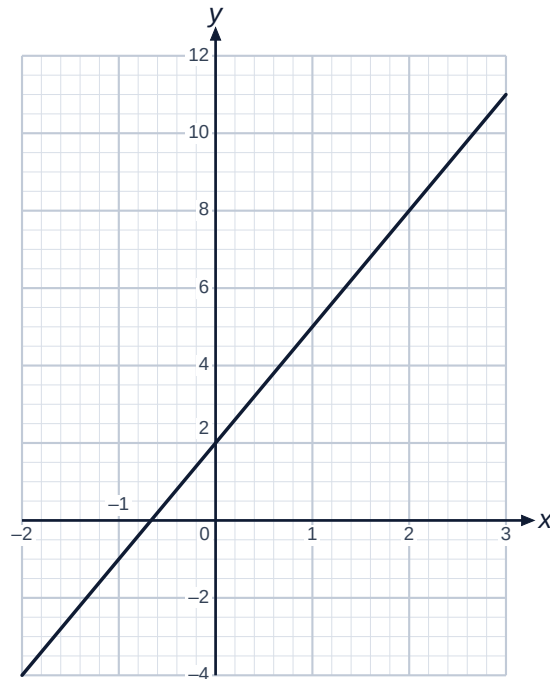


Q19

[3 marks]

A straight line is drawn on the grid.

- (a) Write down the y -intercept of the line.
- (b) Work out the gradient of the line.
- (c) Write down the equation of the line.



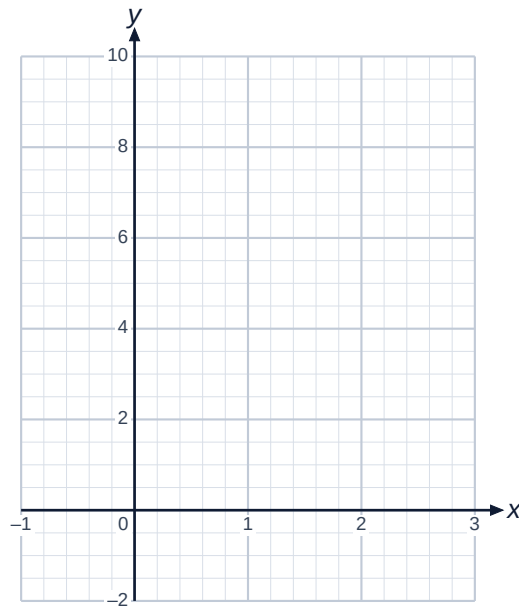
Q20

[4 marks]

(a) Complete the table of values for $y = 3x + 1$.

(b) On the grid, draw the graph of $y = 3x + 1$ for values of x from -1 to 3 .

x	-1	0	1	2	3
y			4		10

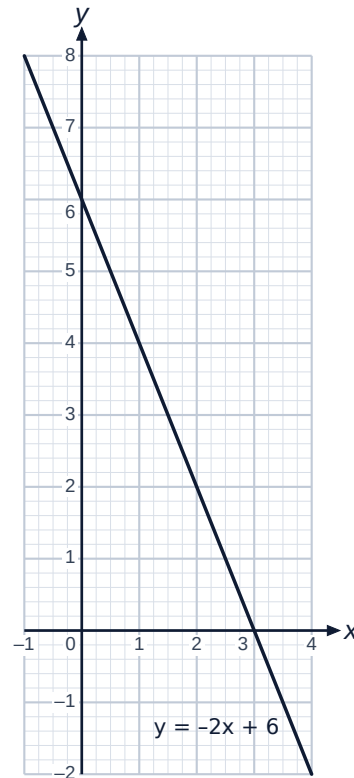


Q21

[3 marks]

The graph of $y = -2x + 6$ is drawn on the grid.

- (a) Use the graph to find the value of y when $x = 1.5$.
- (b) Use the graph to solve $-2x + 6 = 1$.
- (c) Write down the gradient of the line.



Q22

[3 marks]

Find the equation of the line that is parallel to $y = -2x - 2$ and passes through the point $(-3, -2)$.

Q23

[3 marks]

Find the equation of the straight line through $(-2, 8)$ and $(1, 2)$.

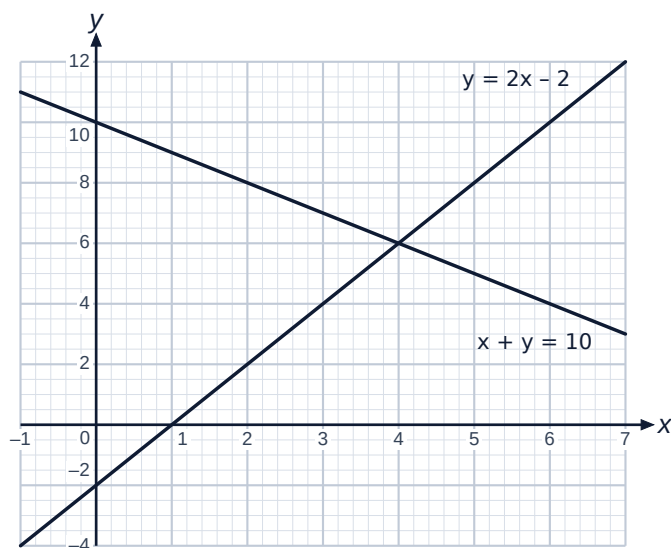
Q24

[3 marks]

The lines $y = 2x - 2$ and $x + y = 10$ are drawn on the grid.

(a) Write down the coordinates of the point where the two lines meet.

(b) Use the graph to solve $2x - 2 = 2$.



Q25

[3 marks]

Find the equation of the line that is parallel to $y = 5x - 3$ and passes through the point $(-3, -5)$.

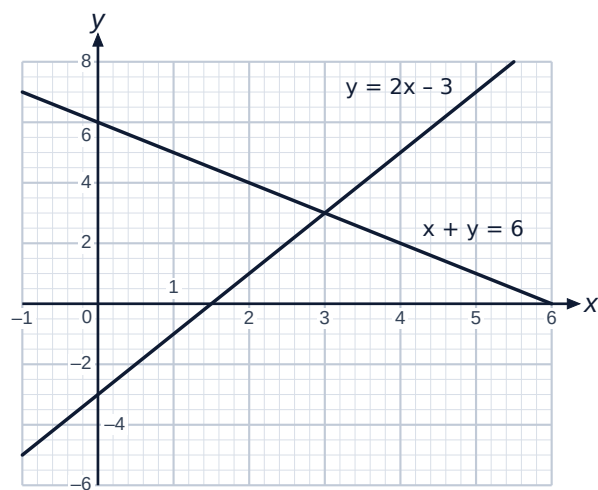
Q26

[3 marks]

The lines $y = 2x - 3$ and $x + y = 6$ are drawn on the grid.

(a) Write down the coordinates of the point where the two lines meet.

(b) Use the graph to solve $2x - 3 = 7$.



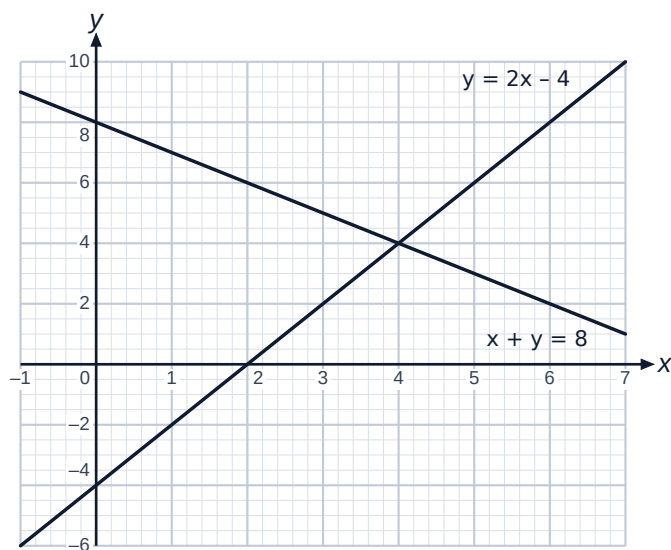
Q27

[3 marks]

The lines $y = 2x - 4$ and $x + y = 8$ are drawn on the grid.

(a) Write down the coordinates of the point where the two lines meet.

(b) Use the graph to solve $2x - 4 = 8$.

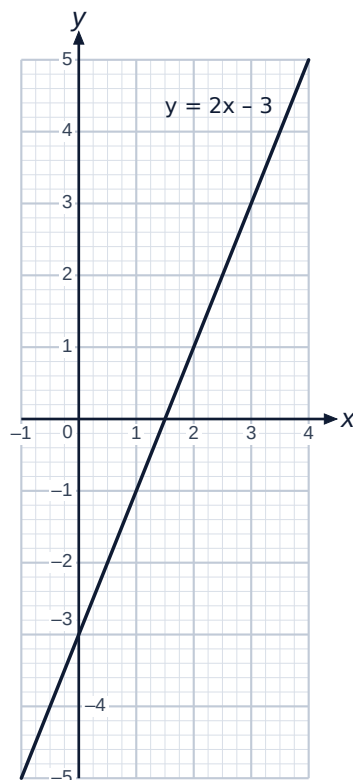


Q28

[3 marks]

The graph of $y = 2x - 3$ is drawn on the grid.

- (a) Use the graph to find the value of y when $x = 0.5$.
- (b) Use the graph to solve $2x - 3 = 0$.
- (c) Write down the gradient of the line.

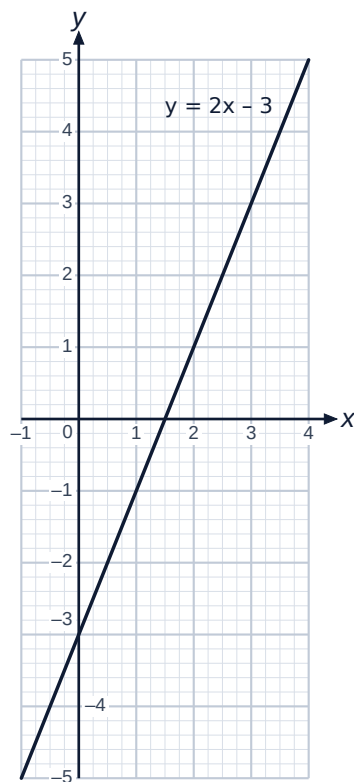


Q29

[3 marks]

The graph of $y = 2x - 3$ is drawn on the grid.

- (a) Use the graph to find the value of y when $x = 2.5$.
- (b) Use the graph to solve $2x - 3 = 0$.
- (c) Write down the gradient of the line.



Q30

[3 marks]

Find the equation of the straight line through $(-2, -3)$ and $(1, 0)$.

