

Gradients and $y = mx + c$

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **28**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** (a) Write down the gradient of the line $y = 4x - 7$

[1 mark]

Answer _____

- (b) Write down the coordinates of the y -intercept of the line $y = 5x + 9$

[1 mark]

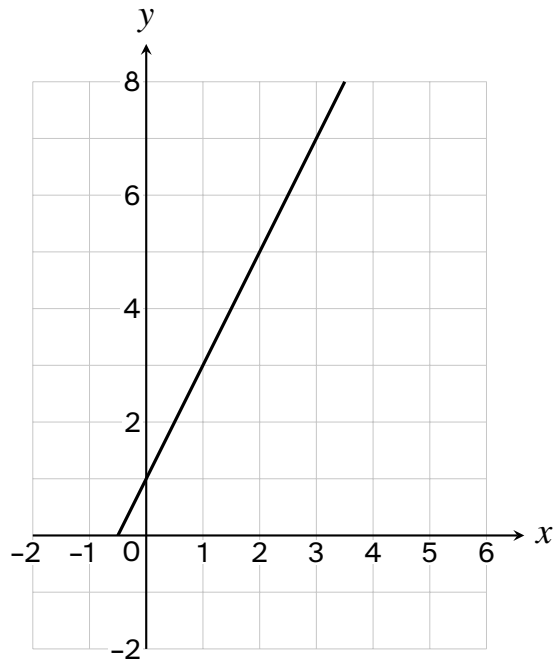
Answer (_____ , _____)

- (c) Work out the gradient of the line $3y = 12x$

[1 mark]

Answer _____

2 Here is a straight line.



Circle the gradient of the line.

[1 mark]

-2

$\frac{1}{2}$

2

3

3 Work out the gradient of the straight line through $(-3, 2)$ and $(1, 14)$

[2 marks]

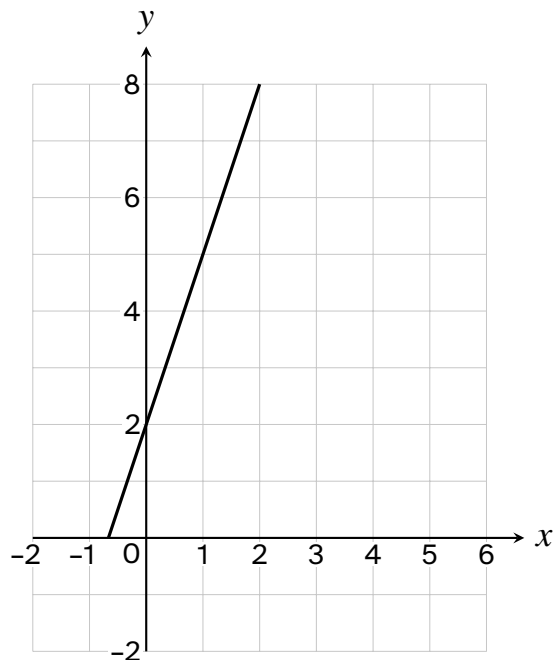
Answer _____

- 4 The graph of a straight line crosses the y -axis at $(0, -3)$.
The gradient of the line is 5
Write down the equation of the line.
Give your answer in the form $y = mx + c$

[2 marks]

Answer _____

- 5 Here is a straight line.



Work out the equation of the line.
Give your answer in the form $y = mx + c$

[3 marks]

Answer _____

- 6 Circle the equation of a line parallel to $y = 4x - 3$

[1 mark]

$y = x + 4$

$y = 4x + 7$

$y = -4x - 3$

$y = \frac{1}{4}x - 3$

- 7 Write down the equation of a line parallel to $y = 5 - 2x$ that passes through $(0, 4)$.

[2 marks]

Answer _____

- 8 Tick **one** box for each statement.

[2 marks]

- $y = 2x + 3$ has gradient 3
- $y = 7 - x$ has gradient -1
- $y = 4x$ passes through $(0, 0)$
- $y = 5$ has gradient 5

True

False

☐☐☐☐☐☐☐☐

- 9 Does the point $(3, 10)$ lie on the line $y = 4x - 2$?

Tick a box.

Show working to support your answer.

[2 marks]

☐ Yes

☐ No

- 10** Line L passes through the points $(2, 5)$ and $(4, 11)$.

Work out the equation of line L .

Give your answer in the form $y = mx + c$

[3 marks]

Answer _____

- 11** Line L has gradient -3

C and D are points on line L .

The y -coordinate of C is 8

The x -coordinate of D is 5 more than the x -coordinate of C .

Work out the y -coordinate of D .

[2 marks]

Answer _____

12 (a) Here are the equations of four straight lines.

A $y = 3x + 2$

B $y = 2x + 3$

C $y + 3x = 2$

D $y - 3x = 7$

Which **two** lines are parallel?

[1 mark]

Answer _____

(b) The line $y = 2x + c$ passes through the point (5, 4).

Work out the value of c .

[1 mark]

$c =$ _____

13 Line A has equation $y = -2x + 9$

Line B is parallel to line A .

Line B goes through the point (3, 1).

Work out the equation of line B .

Give your answer in the form $y = mx + c$

[3 marks]

Answer _____