THIRD SPACE LEARNING

GCSE Exam Questions

$y = mx + c$ | Algebra

GCSE Exam Questions: $y = mx + c$

1) **(a)** A line has the equation $y = 5x - 7$. What is the gradient of the line? Circle your answer.

5 $\quad$ - 7 $\quad$ - 5 $\quad$ $\frac{1}{5}$ $\quad$ 7

(1)

(b) What is the y - intercept? Circle your answer.

5 $\quad$ - 7 $\quad$ - 5 $\quad$ $\frac{1}{5}$ $\quad$ 7

(1)
(2 marks)

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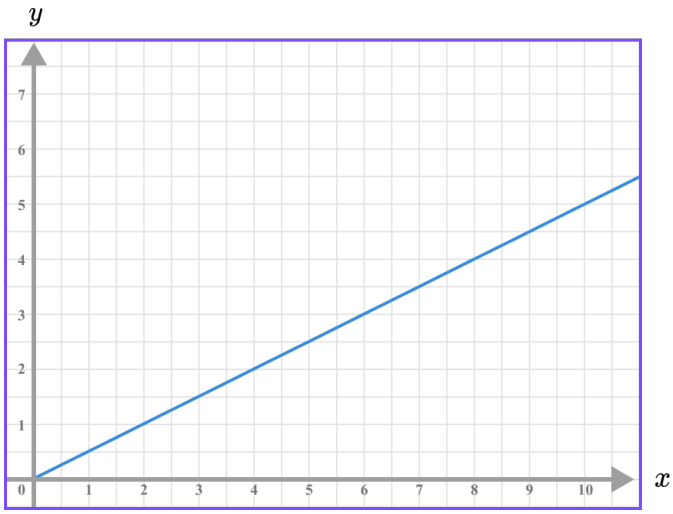
2) **(a)** Find the equation of the line:



(3)

(b) Does the coordinate (15, 8) lie on the line? Explain your answer.

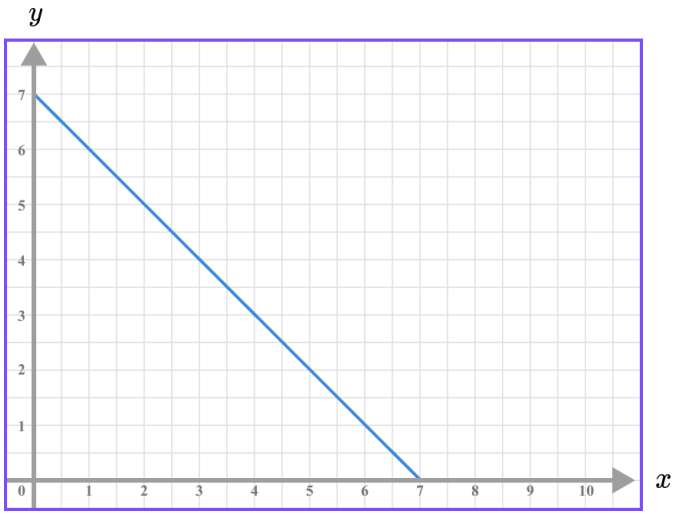
(2)
(5 marks)

GCSE Exam Questions: $y = mx + c$

3) **(a)** Which of the following is the equation of the straight line graph?

Circle your answer.

$y = 7x$ $y = x + 7$ $y = x - 7$ $y = 7 - x$



(1)

(b) Calculate the x value when the straight line intersects with the line $y = -8$.

(2)

(3 marks)

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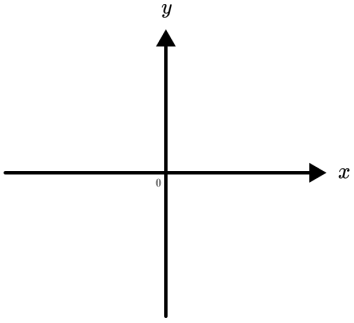
4) **(a)** Show that the straight line $x = -\frac{1}{4}(4y + 3)$ has a gradient of -1

(3)

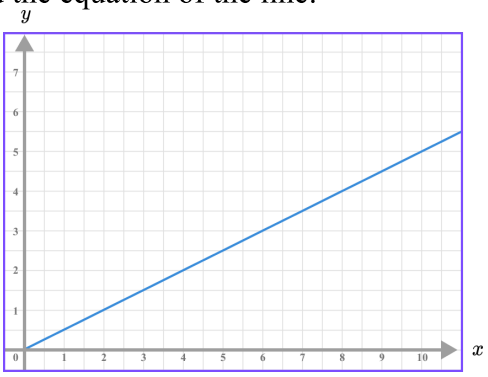
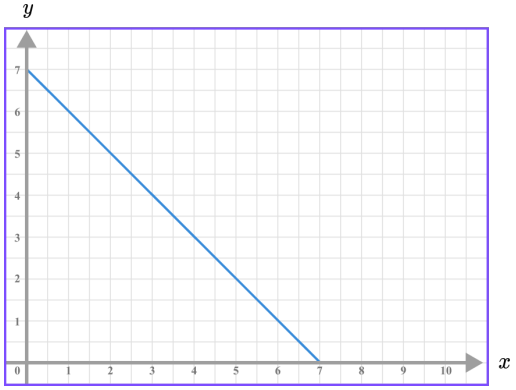
(b) Sketch the graph of $x = -\frac{1}{4}(4y + 3)$ on the axes below.



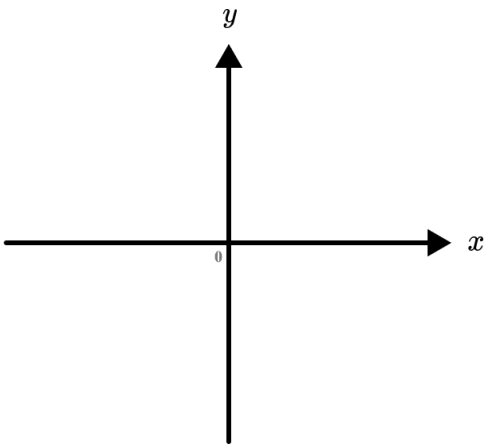
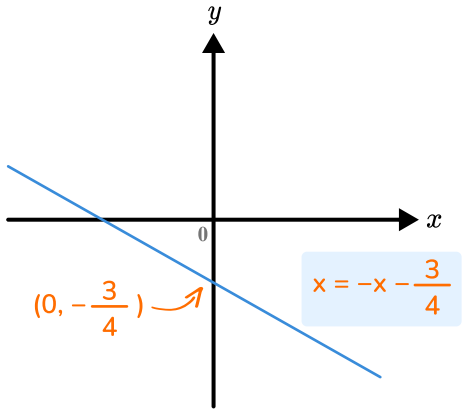
(3)

(6 marks)

GCSE Exam Questions: $y = mx + c$ Answers

	Question	Answer	Marks
1) (a)	A line has the equation $y = 5x - 7$. What is the gradient of the line? Circle your answer. 5 - 7 - 5 $\frac{1}{5}$ 7	**(a)** 5	**(1)**
(b)	What is the y - intercept? Circle your answer. 5 - 7 - 5 $\frac{1}{5}$ 7	**(b)** -7	**(1)**
2) (a)	Find the equation of the line:  	**(a)** $m = \frac{5-0}{10-0} = \frac{1}{2}$ $c = 0$ $y = \frac{1}{2}x$	**(1)** **(1)** **(1)**
(b)	Does the coordinate (15, 8) lie on the line? Explain your answer.	**(b)** $y = \frac{1}{2} \times 15 = 7.5$ No	**(1)** **(1)**
3) (a)	Which of the following is the equation of the straight line graph? Circle your answer. $y = 7x$ $y = x + 7$ $y = x - 7$ $y = 7 - x$  	**(a)** $y = 7 - x$	**(1)**

GCSE Exam Questions: $y = mx + c$ Answers

	Question	Answer	Marks
(b)	Calculate the x value when the straight line intersects with the line $y = -8$.	**(b)** $-8 = 7 - x$ $x = 15$	**(1)** **(1)**
4) (a)	Show that the straight line $x = -\frac{1}{4}(4y + 3)$ has a gradient of -1	**(a)** $x = -\frac{1}{4}(4y + 3)$ $4x = -(4y + 3)$ $4x = -4y - 3$ $4x + 4y = -3$ $4y = -4x - 3$ $y = -x - \frac{3}{4}$	 **(1)** **(1)** **(1)**
(b)	Sketch the graph of $x = -\frac{1}{4}(4y + 3)$ on the axes below. 	**(b)**  Straight line drawn y - intercept highlighted Negative gradient	 **(1)** **(1)** **(1)**

Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning GCSE maths revision pages.

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