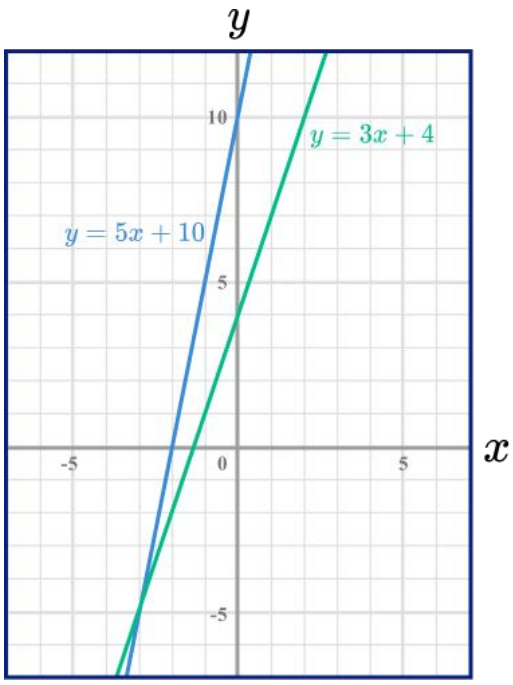
THIRD SPACE LEARNING

GCSE Exam Questions

Intersecting Lines | Algebra

GCSE Exam Questions: Intersecting Lines

1) **(a)** Write down the coordinates of the point where the graphs of $y = 3x + 4$ and $y = 5x + 10$ intersect.



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(1)

(b) Hence, state the solutions to the simultaneous equations.

$y = 3x + 4$

$y = 5x + 10$

$x =$ _____ $y =$ _____

(2)

(3 marks)

GCSE Exam Questions: Intersecting Lines

2) Line L_1 passes through the points (-1 , 1) and (6 , 15).

Another line L_2 passes through the points (0 , -12) and (3 , 3).

Find the point of intersection.

(5 marks)

3) Are the following lines parallel, perpendicular or neither?

(a) $y = 2x + 3$, $y = 2x$

(1)

(a) $y = 3x - 6$,

$y = 6 - 3x$

(1)

(c) $y = \frac{1}{2}x + 1$,

$y = -2x$

(1)

(3 marks)

GCSE Exam Questions: Intersecting Lines

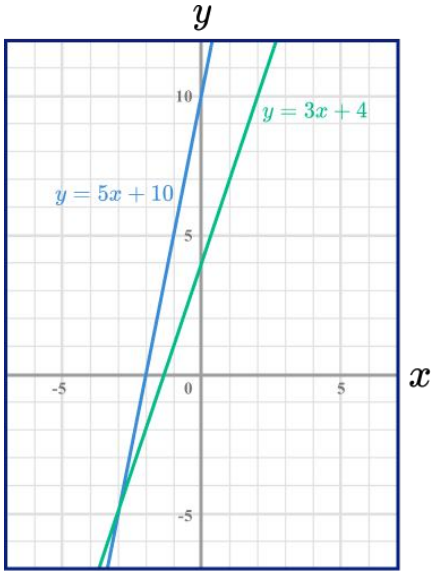
4) Line L_1 has the equation $2y = 4 - 3x$.

Another line L_2 passes through the points (2 , 5) and (5 , 7).

Are the lines parallel, perpendicular or neither?

(3 marks)

GCSE Exam Questions: Intersecting Lines Answers

	Question	Answer	Marks
1) (a)	Write down the coordinates of the point where the graphs of $y = 3x + 4$ and $y = 5x + 10$ intersect.  	**(a)** (-3 , -5)	**(1)**
(b)	Hence, state the solutions to the simultaneous equations $y = 3x + 4$ $y = 5x + 10$	**(b)** $x = -3$ $y = -5$	**(1)** **(1)**
2)	Line L_1 passes through the points (-1 , 1) and (6 , 15). Another line L_2 passes through the points (0 , -12) and (3 , 3). Find the point of intersection.	$L_1 \rightarrow y = 2x + 3$ $L_2 \rightarrow y = 5x - 12$ $x = 5$ $y = 13$ (5 , 13)	**(1)** **(1)** **(1)** **(1)** **(1)**
3) **(a)**	Are the following lines parallel, perpendicular or neither? $y = 2x + 3, y = 2x$	**(a)** Parallel	**(1)**
(b)	$y = 3x - 6, y = 6 - 3x$	**(b)** Neither	**(1)**
(c)	$y = \frac{1}{2}x + 1, y = -2x$	**(c)** Perpendicular	**(1)**

GCSE Exam Questions: Intersecting Lines Answers

	Question	Answer	Marks
4)	Line L_1 has the equation $2y = 4 - 3x$. Another line L_2 passes through the points (2 , 5) and (5 , 7). Are the lines parallel, perpendicular or neither?	Gradient $L_1 = -\frac{3}{2}$ Gradient $L_2 = \frac{2}{3}$ Perpendicular	**(1)** **(1)** **(1)**

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