

Determine whether a point is on a line

- 1 In which pairs of coordinates is the y -value 7 more than the x -value? Tick your answers.

$(1, 8)$ <input type="checkbox"/>	$(7, 0)$ <input type="checkbox"/>	$(0, 7)$ <input type="checkbox"/>	$(\frac{3}{2}, 8\frac{1}{2})$ <input type="checkbox"/>
$(3.1, 3.8)$ <input type="checkbox"/>	$(9, 7)$ <input type="checkbox"/>	$(0.5, 6.5)$ <input type="checkbox"/>	$(\frac{19}{7}, \frac{26}{7})$ <input type="checkbox"/>

Hence, determine which of the points lie on the line $y = x + 7$

- 2 Which of the points lie on the line $y = x - 5$? Tick your answers.

$(3, 8)$ <input type="checkbox"/>	$(2, -3)$ <input type="checkbox"/>	$(9, 4)$ <input type="checkbox"/>	$(\frac{25}{5}, 0)$ <input type="checkbox"/>
$(1, -4)$ <input type="checkbox"/>	$(7, 2)$ <input type="checkbox"/>	$(3.7, 3.2)$ <input type="checkbox"/>	$(a, a - 5)$ <input type="checkbox"/>

How did you decide?

- 3 Which statement correctly describes the relationship between the x - and y -coordinates at any given point on the line $y = 2x - 1$? Tick your answers.

The y -coordinate is 1 less than the x -coordinate.

The x -coordinate is 1 less than the y -coordinate.

The y -coordinate is 1 less than double the x -coordinate.

The x -coordinate is 1 less than double the y -coordinate.

- 4 Describe the relationship between the x - and y -coordinates at any given point on the line $y = 5x + 7$
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- 5 Show that the point $(3, 7)$ lies on the line $y = 2x + 1$

- 6 Show that the point $(-9, 7)$ does not lie on the line $y = 2 - x$.

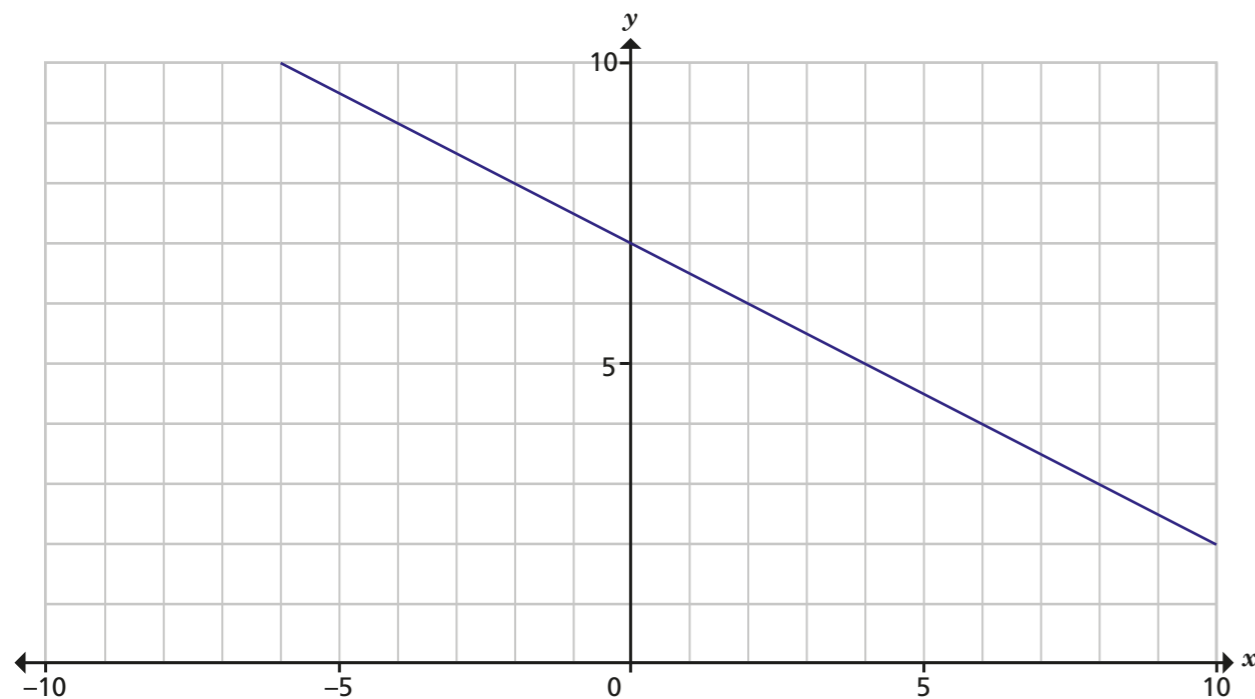
- 7 Does the point $(13, -5)$ lie on the line $y = 8 - x$? _____
Show your workings.

- 8 The equation of L_1 is given by $2y - 12x = 17$
a) Write the equation of L_1 in the form $y = mx + c$.

- b) Does L_1 pass through the point $(\frac{1}{2}, 12)$? _____
Show workings to justify your answer.

- 9 Show that the point $(-12, 61)$ lies on the line $6y = 3x + 402$

10 The graph shows the line $y = 7 - \frac{1}{2}x$.



a) Does each point lie on, above or below the line $y = 7 - \frac{1}{2}x$?
Tick your answers.

	On	Above	Below
(2, 9)			
(1, 7)			
(-5, 6)			
(4, 5)			

b) Dora wants to know if the point $(-10, -20)$ lies on, above or below the line $y = 7 - \frac{1}{2}x$.

She says, "I can't tell because the axis doesn't extend that far."

Do you agree with Dora? _____

Explain your answer.

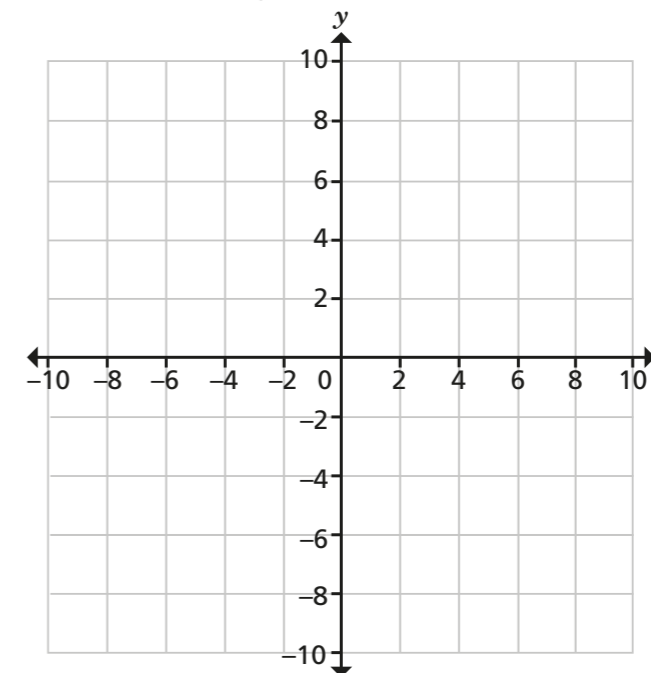
c) Does the point $(17, 23)$ lie on, above or below the line $y = 7 - \frac{1}{2}x$?

Explain your answer.

11 The equation of line L_2 is $4y + 16 = 12x$.

a) Write the equation of L_2 in the form $y = mx + c$

b) Draw the graph of L_2 on the grid.



c) Does the point $(2, 9)$ lie on, above or below L_2 ? _____

12 Three points are shown.

A (7, 28)

B (-3, -22)

C (8, 45)

a) Work out the equation of the straight line that passes through points A and B.

b) Does point C lie on the same straight line? _____
Show workings to justify your answer.

