



Aberdare Community School
Mathematics Department

WJEC GCSE

Foundation – Non Calculator
Algebra

Straight line graphs

Name:

Set:

Date:

Teacher:

12. The table below gives some of the values of $y = x - 3$ for values of x from -3 to 2 .

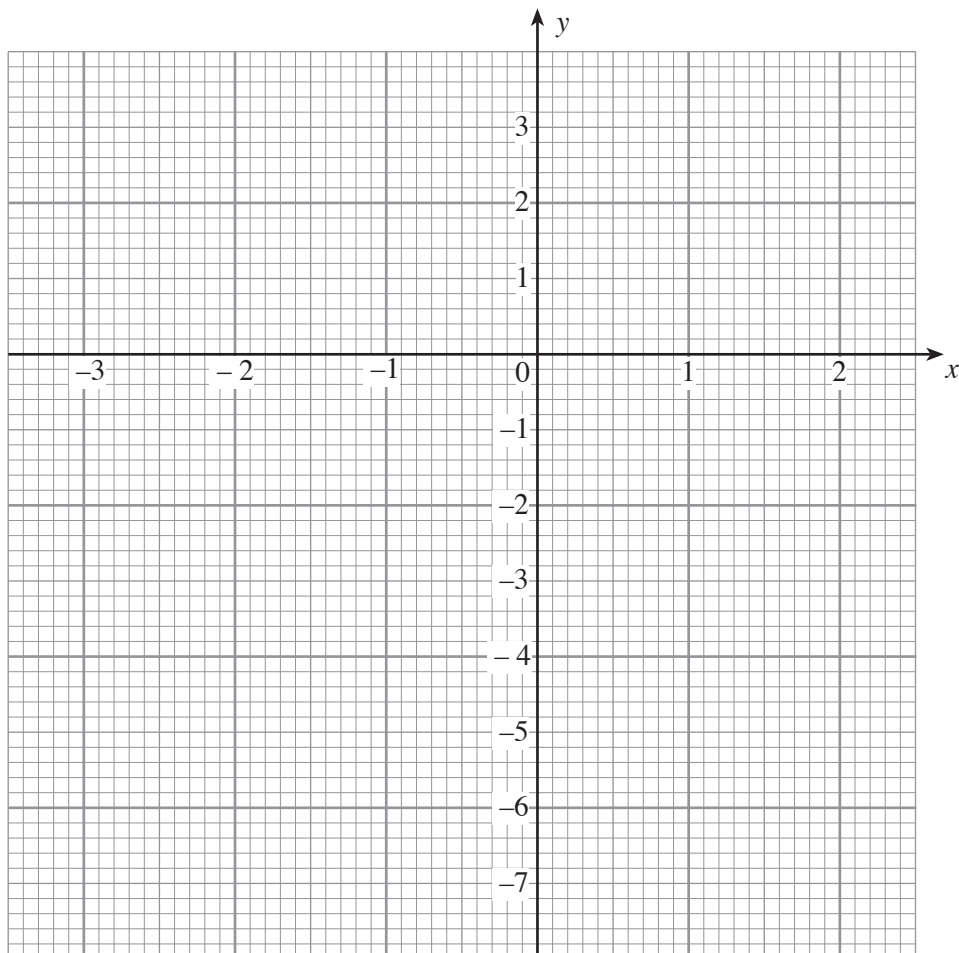
(a) Complete the table by finding the value of y when $x = 2$.

[1]

x	-3	0	2
y	-6	-3	

(b) On the graph paper below, draw the graph of the straight line $y = x - 3$ for values of x from -3 to 2 .

[2]



8.

- (d) The coordinates of each of the points $(1, 4)$, $(2, 8)$ and $(3, 12)$ satisfy a rule.
The coordinates of the point (m, n) satisfy the same rule.
Write down the rule that connects m and n .

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[2]

6.

(b) The coordinates of each of the points (2, 10), (3, 15) and (4, 20) satisfy a rule.

- (i) The point (10, y) satisfies the same rule.
Find the value of y .

- (ii) The point (x , 100) satisfies the same rule.
Find the value of x .

[2]

6.

- (e) There is a connection between the x -coordinate and the y -coordinate of each of the following points.

(1, 4) (2, 5) (3, 6) (4, 7) (x , y)

Write down the formula connecting x and y .

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[2]

13. The table below gives some of the values of $y = x - 3$ for values of x from -3 to 2 .

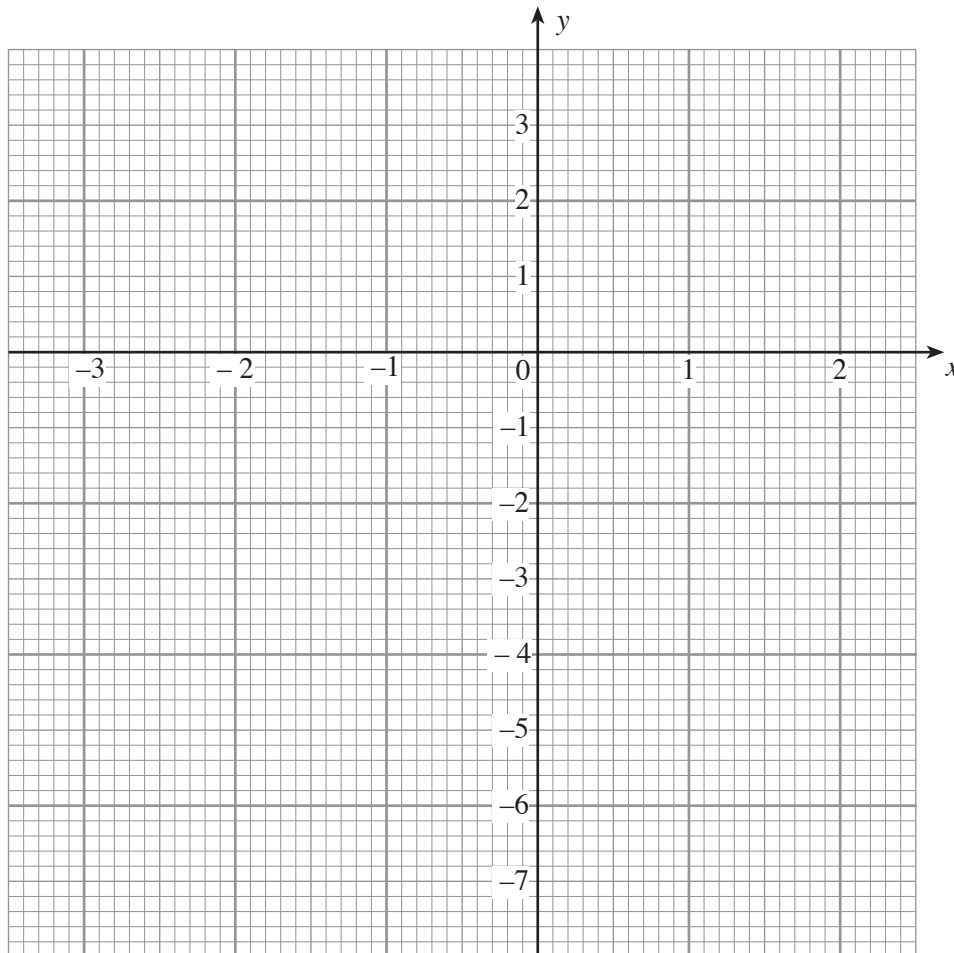
(a) Complete the table by finding the value of y when $x = 2$.

[1]

x	-3	0	2
y	-6	-3	

(b) On the graph paper below, draw the graph of the straight line $y = x - 3$ for values of x from -3 to 2 .

[2]



- (b) The coordinates of each of the points (1, 3), (2, 4) and (3, 5) satisfy a rule.
The coordinates of the point (x, y) satisfy the same rule.
Write down the rule that connects x and y .

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[2]

13. Here are equations of three straight lines.

$$\begin{aligned}y &= 3x + 8 \\2y &= 6x + 15 \\2y &= 3x + 7\end{aligned}$$

Explain how you know which two of the three straight lines are parallel.

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[3]

11. Michelle has been given 6 equations and she has been asked to draw 6 graphs. Before starting, she looks at the equations.

$$y = 3x$$

$$y = x$$

$$y = \frac{1}{2}x$$

$$y = 2x + 5$$

$$y = 4x + 2$$

$$y = 2x + 4$$

- (a) Michelle says, “the steepest graph will be $y = 2x + 5$ ”.
Is Michelle correct?
You must give a reason for your answer.

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[1]

- (b) Michelle also says, “no two graphs will be parallel to each other”.
Is she correct?
You must give a reason for your answer.

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[1]

7.

(e) There is a connection between the x and y coordinates of the following points.

(1, 4) (2, 8) (3, 12) (4, 16)

Complete the coordinates for the following two points which follow the same pattern.

(10,)

(a ,)

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[2]

14. Use the grid below to draw graphs to represent each of the following equations.

(i) $y = \frac{1}{2}x + 6$

(ii) $x + y = 8$

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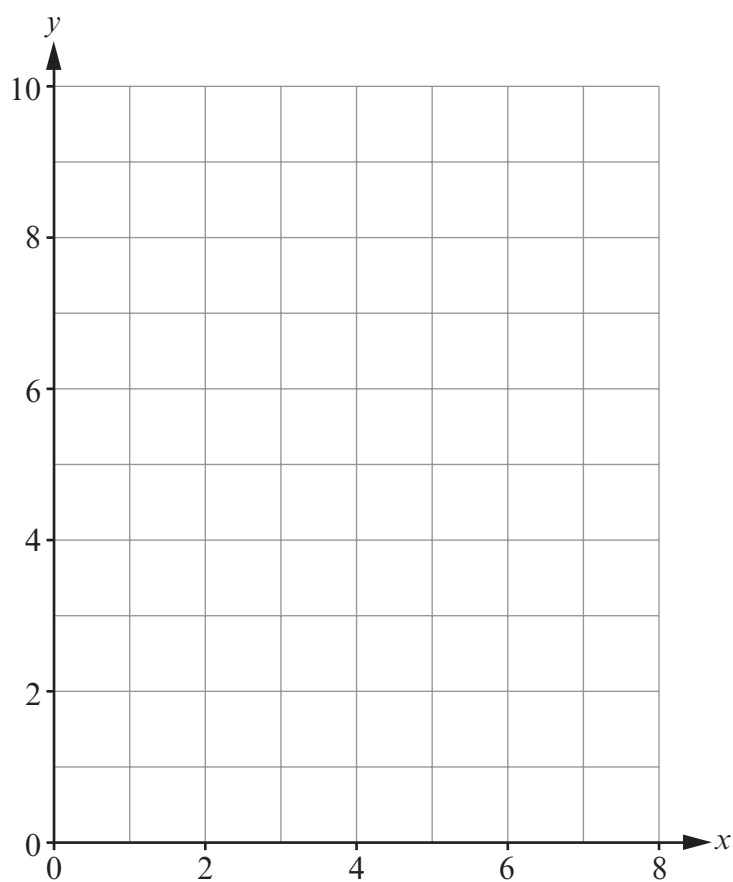
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Label your lines (i) and (ii) as appropriate.



[4]

16. Points are plotted on a grid.
The rule $(a, 3a)$ is used to find all the points.

(a) Does the point with coordinates $(-5, -2)$ fit the rule?
You must give a reason for your answer.

[1]

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(b) Plot five possible points with coordinates that fit the rule $(a, 3a)$ on the grid.

[2]

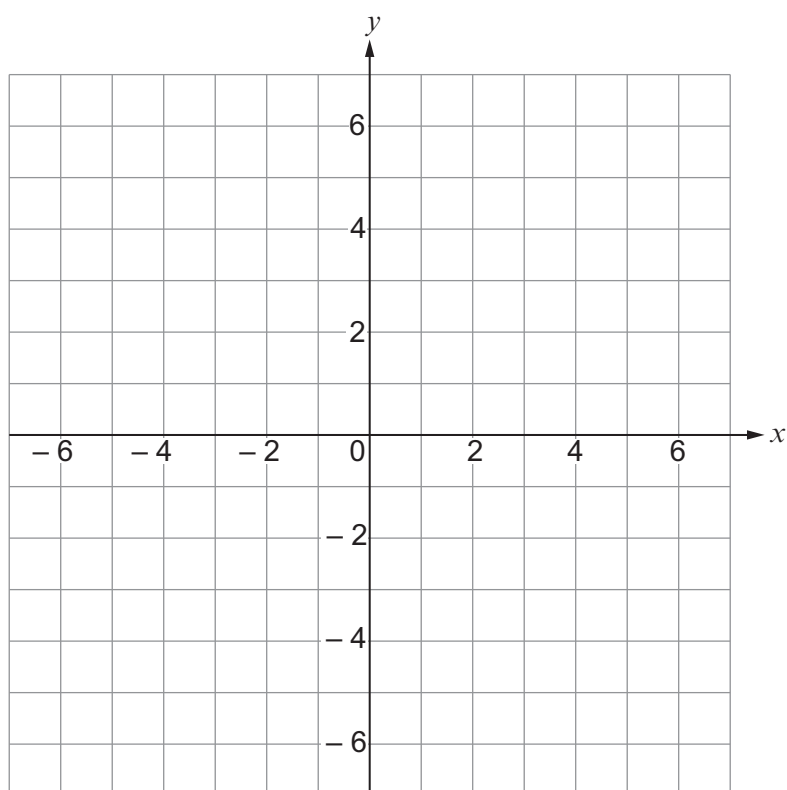
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5.

(b) On the set of axes below,

(i) plot the point $(5, 7)$ and label it P ,

[1]

(ii) draw the line $y = 4$.

[1]

