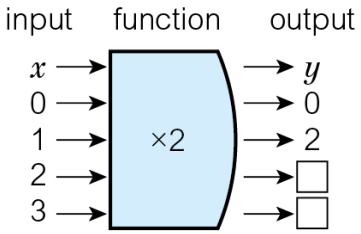
Name:

Recognise and plot lines $y = kx + a$

Support

1 **a** Complete the function machine for $y = 2x$.



b Use the function machine to complete the table of values for $y = 2x$.

x	0	1	2	3
y	0	2		

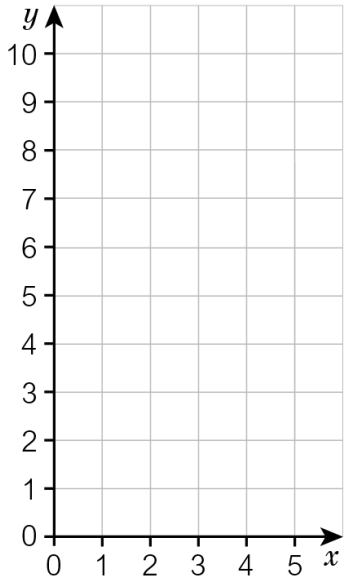
c Write the pairs of x- and y-values in the table as coordinates.

.....

.....

d Plot the coordinates from **c** on the coordinate grid. Join the points with a straight line.

e Extend your straight line to the edges of the grid to draw the graph of $y = 2x$.



Core

2 **a** Complete this table of values for the equation $y = 2x + 2$.

x	0	1	2	3
y				

b Draw the graph of $y = 2x + 2$.

c What is the value of y when $x = \frac{1}{2}$?

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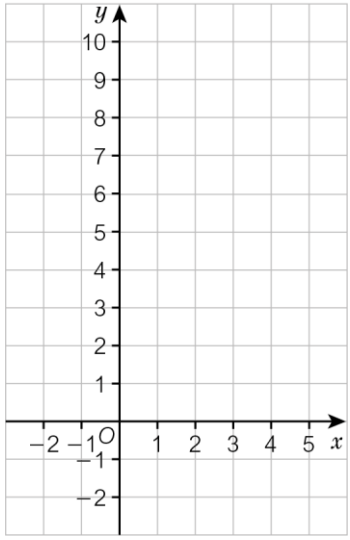

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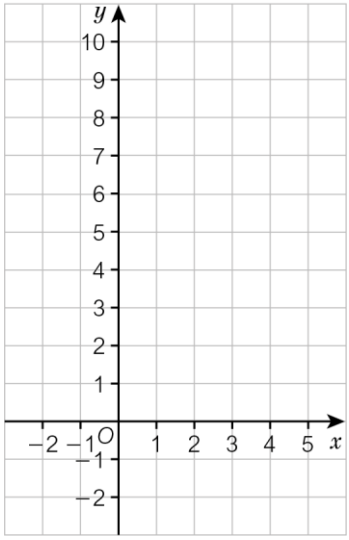
Name:

3 **a** Complete this table of values for the equation $y = 2x - 2$.

x	0	1	2	3	4	5
y						



b Draw the graph of $y = 2x - 2$.

c Look at the graphs you drew in **Q1**, **Q2** and **Q3**. What do you notice?

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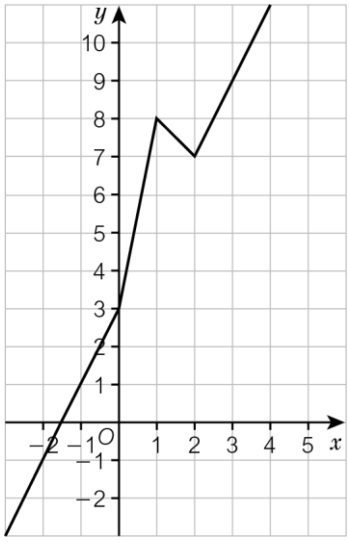
4 This is Jack's graph of $y = 2x + 3$.



a Which coordinate do you think is most likely to be wrong? Explain why.

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.....

.....

b Draw the correct graph of $y = 2x + 3$ on the grid.

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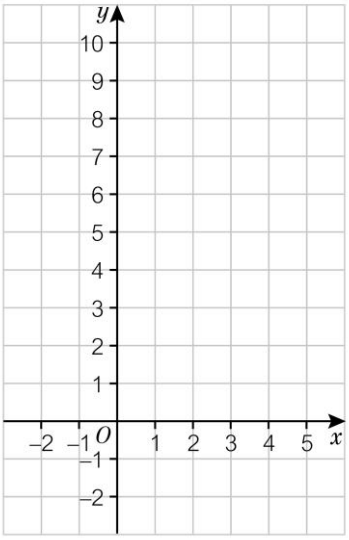
Name:

Depth

5 **a** Complete the table of values for the equation $y = 3x + 4$.

x	0	1	2
y			



b Plot the coordinates from the table.
Join them with a straight line.

c Extend your straight line to $y = -2$.

d Write three pairs of negative x- and y-coordinates that lie on the line $y = 3x + 4$.

.....

e Are there any pairs of negative x- and positive y-coordinates that lie on the line $y = 3x + 4$?
If so, write one pair. .....

f Are there any pairs of positive x- and negative y-coordinates that lie on the line $y = 3x + 4$?
If so, write one pair. .....

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