

Check out

You should now be able to ...

✓ Use a table of values to draw a straight-line graph.	6	1
✓ Recognise the equations of simple straight-line graphs.	6	2 - 4
✓ Relate gradient and y -intercept to the general equation $y = mx + c$.	6	5 - 6
✓ Draw and interpret real-life graphs.	6	7 - 9

Test it

Questions

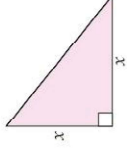
✓ Use a table of values to draw a straight-line graph.	6	1
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✓ Draw and interpret real-life graphs.	6	7 - 9



Language Meaning Example

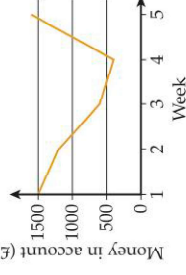
Equation	A statement of mathematical equality.	$y = 2x + 1$										
Table of values	A table giving the coordinates of the points on a given line.	<table border="1"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>1</td> <td>3</td> <td>5</td> <td>7</td> </tr> </table>	x	0	1	2	3	y	1	3	5	7
x	0	1	2	3								
y	1	3	5	7								
Constant	A number in an expression or equation. It does not change.	$y = 2x + 1$ 1 is a constant										
Gradient	A number that describes the steepness of a line defined as $\frac{\text{change in } y}{\text{change in } x}$.	A line through (0, 0) and (4, 2) has gradient $\frac{2-0}{4-0} = \frac{2}{4} = \frac{1}{2}$.										
Intercept	The point at which a line crosses an axis.	The line $y = 2x + 1$ has a y -intercept (0, 1).										

- 7 a Calculate the area of this triangle when $x = 4$ cm.
b Copy and complete the table of values to show A for different values of x .



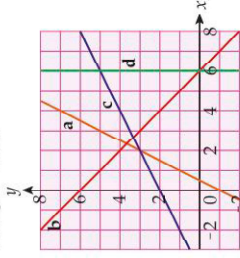
x	1	2	3	4	5	6	7
A							

- c Draw a graph of your results.
- 8 Kate leaves her school which is 6 km from her home at 15:10. She takes 40 minutes to walk 4 km towards her home. She stops at her friend's house for 30 minutes. She cycles the rest of the way home at a speed of 12 km per hour.
Draw this journey on a distance-time graph.
- 9 The money in Geoff's bank account on Monday morning each week for a month is shown on the time-series graph.



- During which week do you think
a Geoff was paid
b Geoff had to pay his rent?

- 1 For the equation $y = 12 - 4x$
a copy and complete the table
- | | | | |
|---|---|---|---|
| x | 1 | 2 | 3 |
| y | | | |
- b plot the graph of the equation
c on the same axes draw the graph of $y = \frac{1}{2}x + 3$
d find the coordinates of the point where the lines intersect.
- 2 Does the line $y = 11 - 3x$ pass through the point (2, 5)?
- 3 Find the equations of each of these straight lines.



- 4 Where does the graph of $4x + 3y = 24$ intersect the coordinate axes?
a $y = \frac{x}{2} - 4$ b $y = -7(3 - 2x)$
- 5 Find the gradients of the straight lines with these equations.
a $y = \frac{x}{2} - 4$ b $y = -7(3 - 2x)$
- 6 Find the y -intercepts of the straight lines with these equations.
a $y = 11 - 7x$ b $y = 5x$

What next?

0 - 4	Your knowledge of this topic is still developing. To improve look at Formative test: 3B-6; MyMaths: 1059, 1153, 1312, 1322, 1395, 1396 and 1939
5 - 7	You are gaining a secure knowledge of this topic. To improve look at Invisipen: 262, 263, 264, 265, 273, 274, 275 and 276
8, 9	You have mastered this topic. Well done, you are ready to progress!

Score