The Straight Line.

You will be able to: Construct a table of values in order to plot points of a straight line.

In Maths, we give Straight Lines "equations", these give the straight lines names which tell us the direction of the line and where it cuts the x-axis and the y-axis. At General Level, you are required to draw a straight line from a table of values as shown in the examples below.

Example 1: Complete the table below which relates to the equation $Y = 2x + 3$. And draw the straight line on the co-ordinate grid.

x	0	1	2	3	4
y	3	5	7	9	11

$Y = 2x + 3$

$Y = 2 \times 0 + 3$
$Y = 3$

$Y = 2 \times 1 + 3$
$Y = 5$

$Y = 2 \times 2 + 3$
$Y = 7$

$Y = 2 \times 3 + 3$
$Y = 9$

$Y = 2 \times 4 + 3$
$Y = 11$

Can you see that we use the equation that we are given and substitute the value of x each time into the equation to get the value of y. These give us co-ordinates which we can now plot. The co-ordinates are →
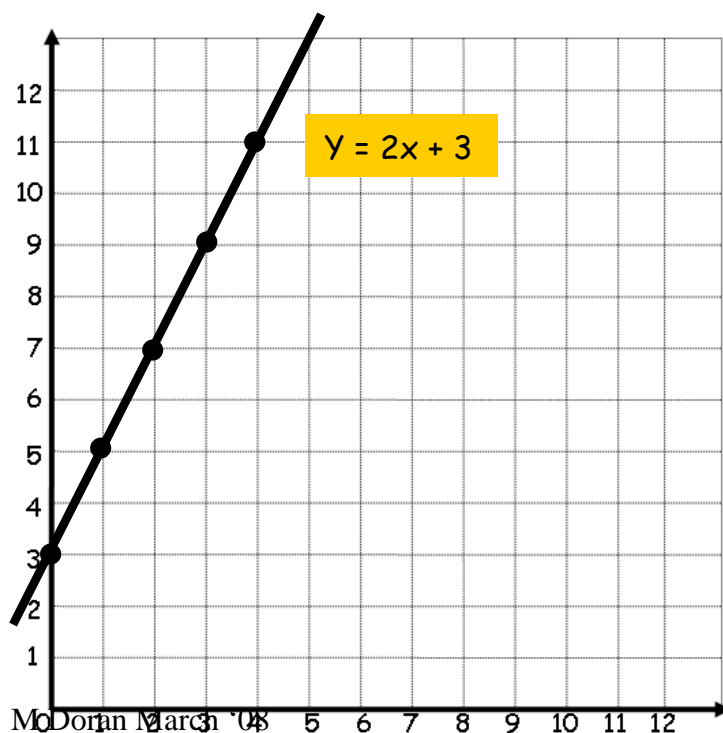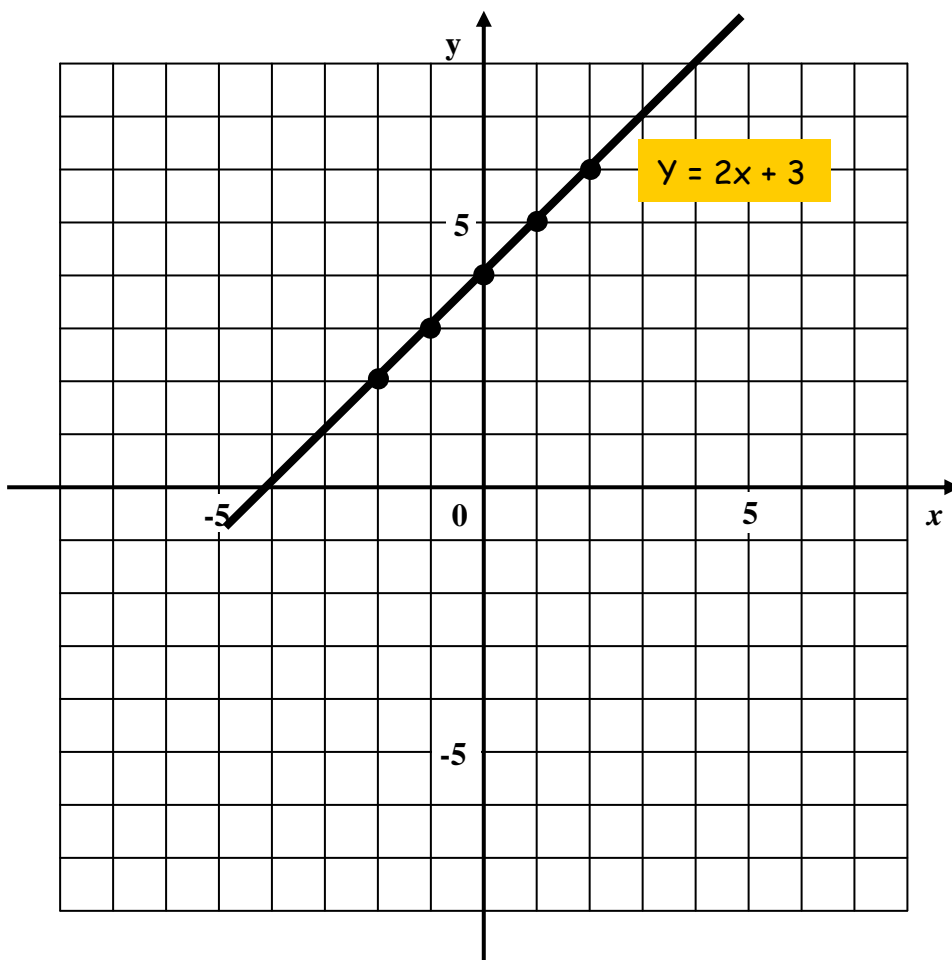
(0,3)

(1,5)

(2,7)

(3,9)

(4,11)

$Y = 2x + 3$

x	-2	-1	0	1	2
y	2	3	4	5	6

Y = 2x + 3

Y = -2×1 + 4
Y = **2**

Y = -2×1 + 4
Y = **3**

Y = -2×1 + 4
Y = **4**

Y = -2×1 + 4
Y = **5**

Y = -2×1 + 4
Y = **6**

(-2,2)
(-1,3)
(0,4)
(1,5)
(2,6)

Y = 2x + 3

Note that you must be careful when working with negative numbers to ensure you get the correct co-ordinates.

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