Learning Enhancement Team

University of East Anglia
STUDENT SUPPORT SERVICE

Worksheet: Sketching Straight Lines

This worksheet has questions about sketching straight line from a given equation of the form $y = mx + c$. Remember, do not use graph paper to help you make your sketch.

Model answers to this sheet

Sketching Straight Lines study guide

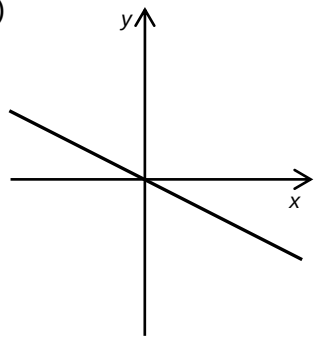
1) Using the pattern $y = mx + c$, write down the gradient and the y-intercept for each straight line equations below.

a) $y = -\frac{1}{2}x + 3$ b) $y = -\frac{1}{2}x$ c) $y = 6$

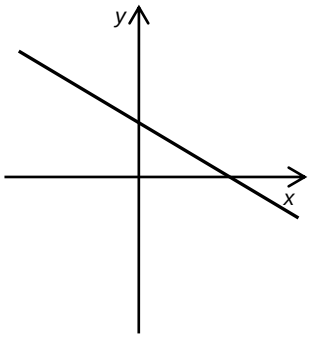
d) $y = x$ e) $y = 3x$ f) $x = -3$

2) Which equation from question 1 corresponds to each of the graphs below?

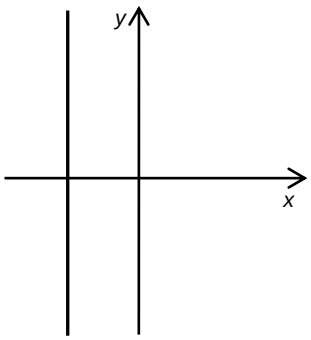
a)



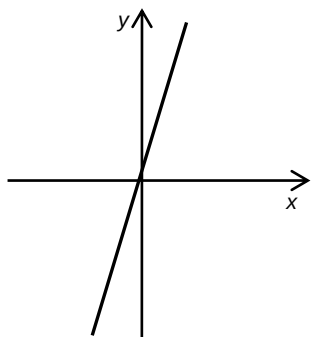
b)



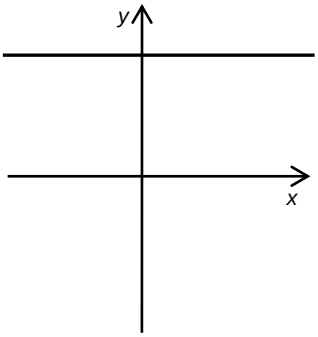
c)



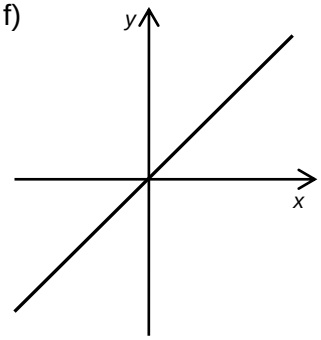
d)



e)



f)



3)

a) On the same graph sketch the lines:

$y = 2x$ $y = 2x + 7$ $y = 2x - 2$

What do you notice about these lines?

b) Now sketch $y = -\frac{1}{2}x$ on the same graph.

What do you notice about the relation between this line and the first three lines?

4) Sketch the following straight line graphs. You may have to rearrange some of the formulas to make *y* the subject before making your sketch.

(a) $\frac{y}{2} = 7$ (b) $-y = -x$ (c) $x = -\frac{1}{2}$

(d) $x - 2 = 0$ (e) $2x = 4 - 6y$ (f) $y + 5 = 2 - x$

(g) $y = \frac{2x}{3} + 7$ (h) $y - 7 = 2x + 5$ (i) $3y + 4 = \frac{x}{2} - 7$