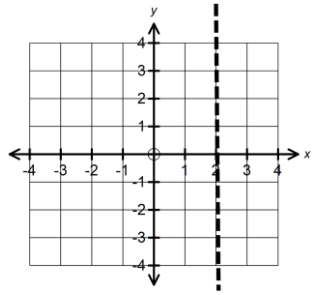
Linear Graphs Foundation

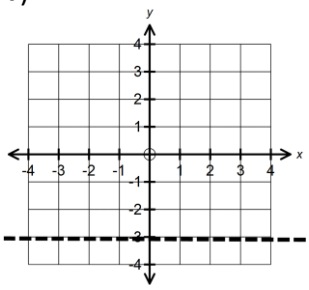
I can……

1 Write down the equations of the lines

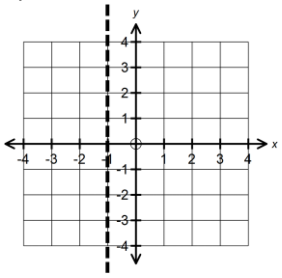
a)



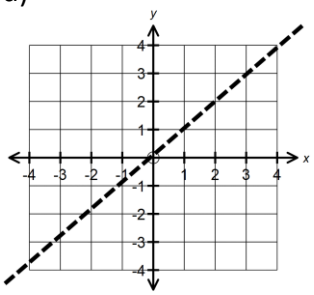
b)



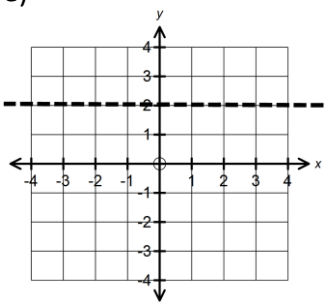
c)



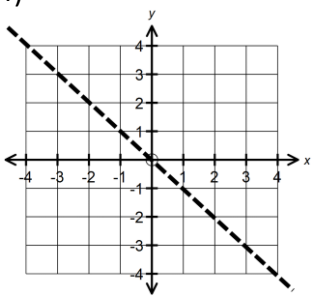
d)



e)



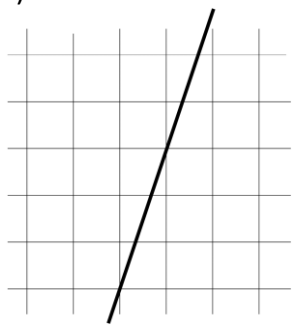
f)



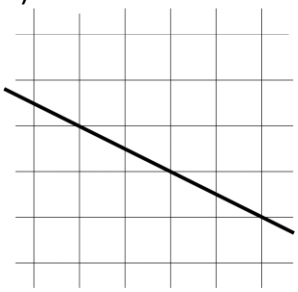
★ *Recognise and plot graphs of the form* $x = a$ *,* $y = b$ *and* $y = \pm x$

2 Write down the gradient of each line

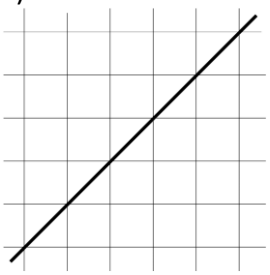
a)



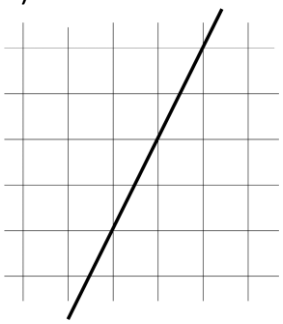
b)



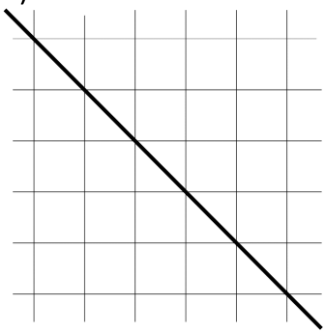
c)



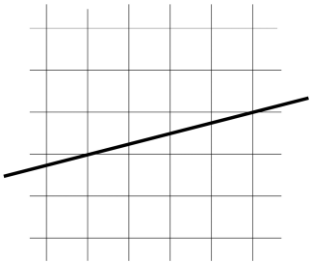
d)



e)



f)



★ *Work out the gradient of a straight line*

3 Calculate the gradient of the lines joining the pairs of points

a) (0, 2) and (3, 14)

b) (-1, 4) and (3, 12)

c) (1, 7) and (5, -1)

d) (3, 1) and (-1, 13)

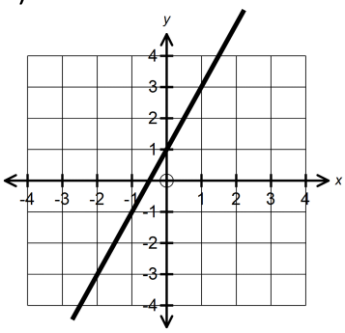
e) (-2, -4) and (4, -10)

f) (-2, 3) and (-4, 2)

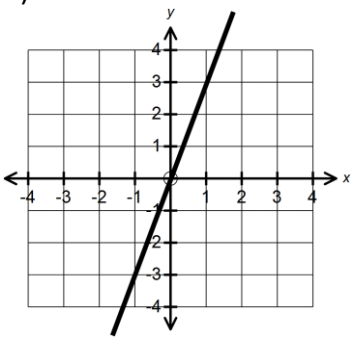
★★ *Find the gradient of a line joining two points*

4 For each graph write down
i) the gradient
ii) the y-axis intercept
ii) the equation of the line (y = mx + c)

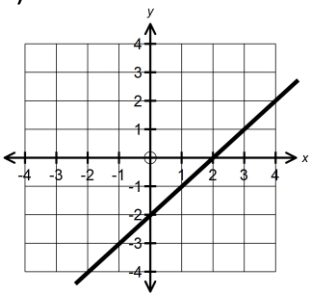
a)



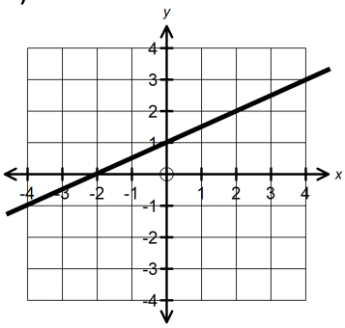
b)



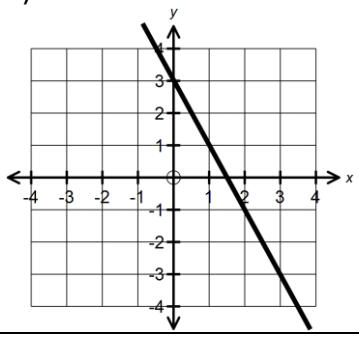
c)



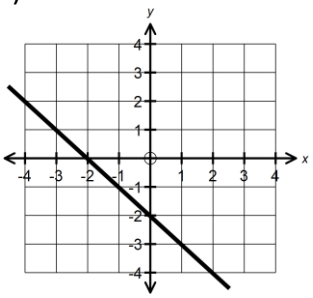
d)



e)



f)



★★
Find the equation of a straight line plotted on a graph.

5 Write down the equations of lines with the following gradients passing through the given points.

a) Gradient = 2
Passing through (4,7)

b) Gradient = 3
Passing through (1,5)

c) Gradient = -1
Passing through(4,-4)

d) Gradient = ½
Passing through (2,6)

e) Gradient = -2
Passing through (-5,0)

f) Gradient = - ½
Passing through(-4,4)

★★★
Find the equation of a straight line given the gradient and a point on the graph

6 Find the equation of the lines joining each pair of points (y = mx + c)

a) (0, 1) and (1, 3)

b) (0, 3) and (2, 11)

c) (0, 7) and (-1, 4)

d) (0, -2) and (2, 4)

e) (0, -1) and (-3, 8)

f) (0, -4) and (-2, -10)

★★★
Find the equation of a line given 2 points (1).

7 Find the equation of a line parallel to the given line through the point stated.

a) Parallel to y = 4x + 3
Passing though (1,4)

b) Parallel to y = 2x - 4
Passing though (3,5)

c) Parallel to y = x - 3
Passing though (-1,4)

d) Parallel to y = 10 - x
Passing though (2,4)

e) Parallel to y = ½x + 2
Passing though (4,8)

f) Parallel to y = 3 – 4x
Passing though (1,2)

★★★
Identify and find equations of parallel lines.

8 Find the equation of the lines joining each pair of points (y = mx + c)

a) (4, 2) and (2, 8)

b) (6, 1) and (4, 7)

c) (-1, 3) and (1, -5)

d) (4, -4) and (-2, 8)

e) (2, 1) and (-1, 10)

f) (1, -5) and (3, -4)

★★★★
Find the equation of a line given 2 points (2).