

Straight Line Graphs A24 -27

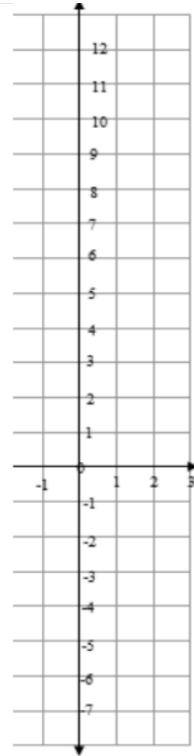
Example

$$y = 3x - 1$$

x	-1	0	1	2	3
y	-4			5	

gradient =

intercept =



For each of the following, write down the gradient and y-intercept. Use them to draw the graph

1. $y = 2x + 1$

x	0	1	2	3	4	5
y						

Gradient =

Intercept =

2. $y = 3x + 1$

x	0	1	2	3	4	5
y						

Gradient =

Intercept =

3. $y = 4x + 1$

x	0	1	2	3	4	5
y						

Gradient =

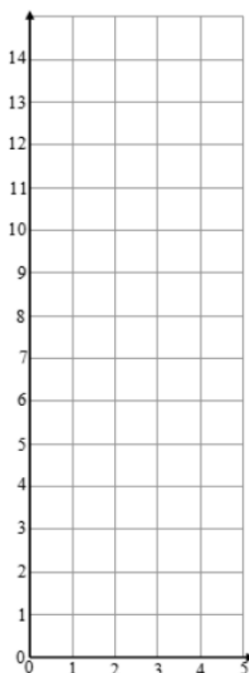
Intercept =

4. $y = 5x + 1$

x	0	1	2	3	4	5
y						

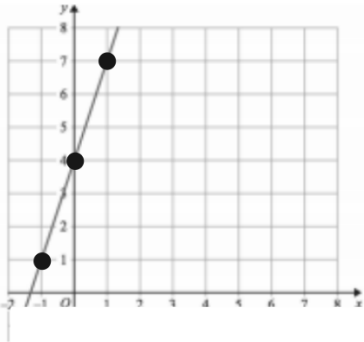
Gradient =

Intercept =

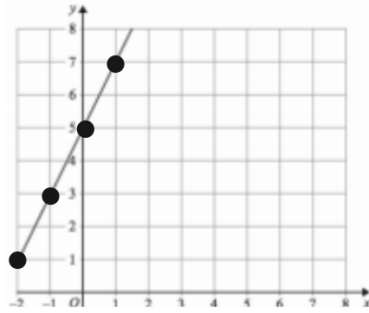


Find the equation of each line

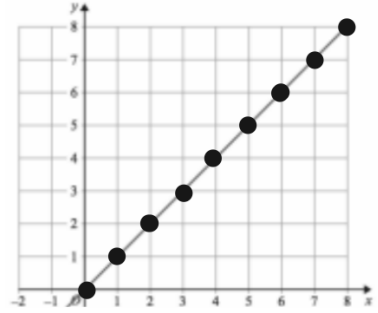
(a)



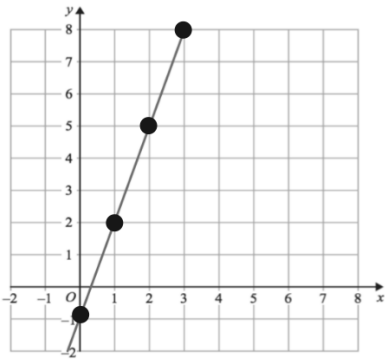
(b)



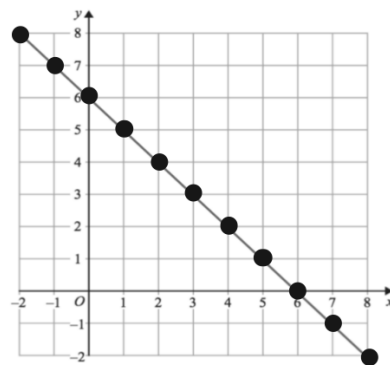
(c)



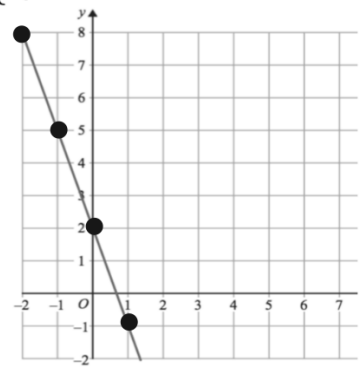
(d)

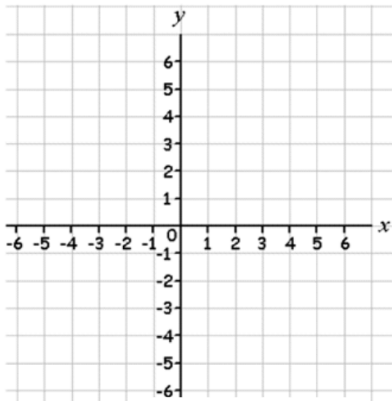


(e)

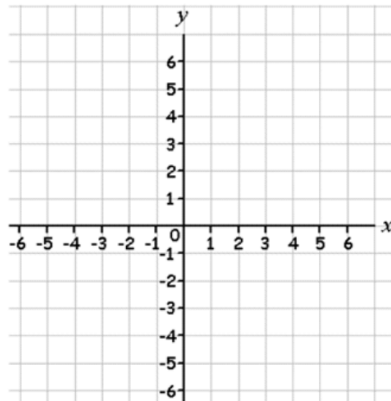


(f)

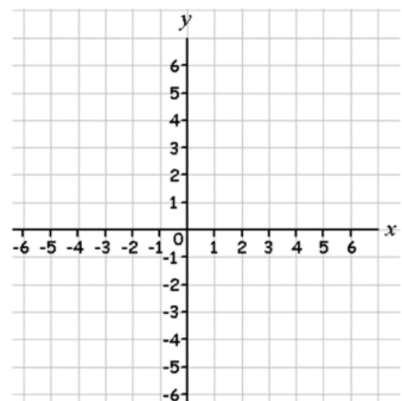




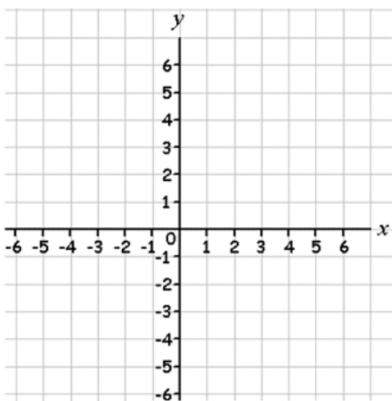
Draw... $y = 2x + 1$



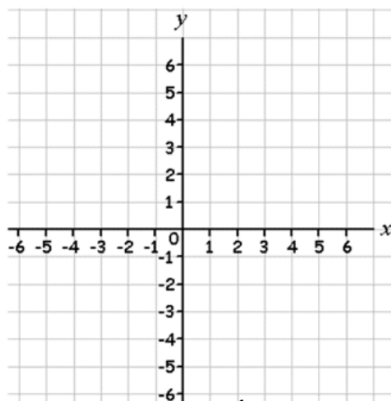
Draw... $y = 2x - 3$



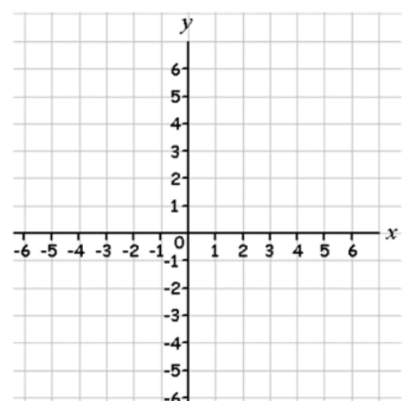
Draw... $y = 3x - 3$



Draw... $y = -2x + 4$

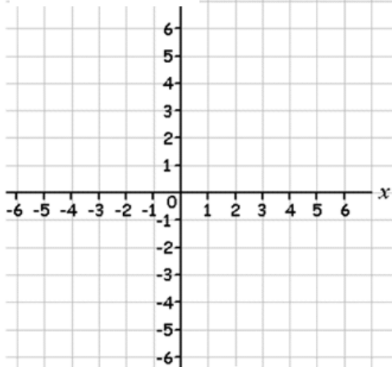


Draw... $y = \frac{1}{2}x - 3$

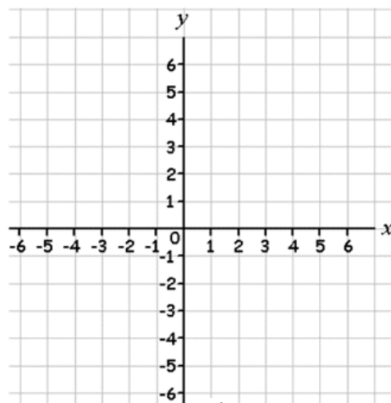


Draw... $y = -3x + 3$

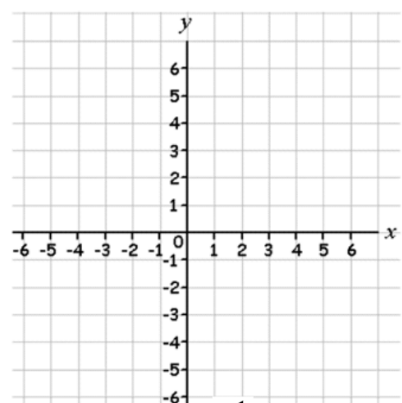
Extension



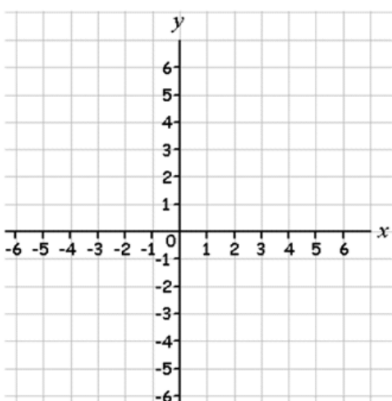
Draw... $y = \frac{1}{3}x + 1$



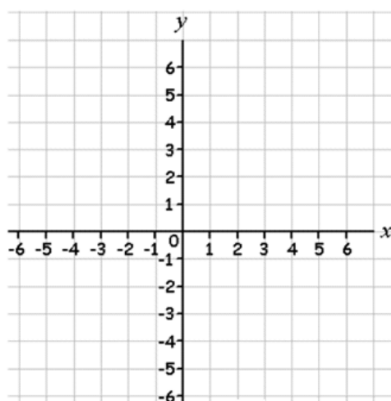
Draw... $y = \frac{1}{4}x - 3$



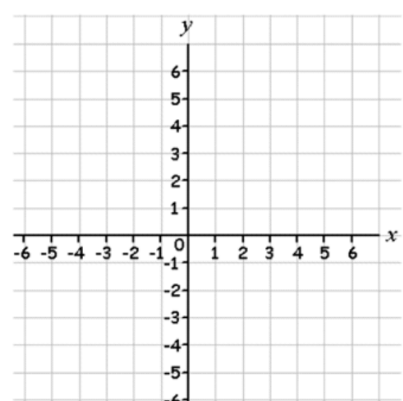
Draw... $y = -\frac{1}{4}x + 3$



Draw... $y = \frac{2}{5}x$



Draw... $y = -\frac{3}{2}x + 2$



Draw... $y = \frac{3}{4}x - 2$

Question 1: Write down the gradient of each of these lines.

(a) $y = 3x + 1$

(b) $y = 2x - 5$

(c) $y = 7x + 4$

(d) $y = 10x + 5$

(e) $y = x - 2$

(f) $y = 6x$

(g) $y = -4x + 3$

(h) $y = -3x - 7$

(i) $y = \frac{1}{2}x + 3$

(j) $y = -\frac{4}{5}x - 9$

Question 2: Write down where each of these lines cross the y-axis (y-intercept)

(a) $y = 2x + 3$

(b) $y = 7x + 1$

(c) $y = 3x - 2$

(d) $y = x - 5$

(e) $y = 2x$

(f) $y = -4x + 6$

(g) $y = -5x - 3$

(h) $y = -3x$

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

(j) $y = -\frac{2}{3}x - \frac{1}{2}$

Question 3 Write the equation of these lines

(a) gradient of 3 and y-intercept of 6

(b) gradient of 2 and y-intercept of -1

(c) gradient of -4 and y-intercept of 3

(d) gradient of 8 and y-intercept of 4

(e) gradient of 1 and passing through (0, 4)

(f) passing through (0, -2) with gradient 4

(g) gradient of -5 and passing through the origin.

Question 4 Write the equation of a line that...

(a) has a gradient of 4 and passes through the point (1, 10)

(b) has a gradient of 2 and passes through the point (-3, 3)

c) has a gradient of 1 and passes through the point (5, 2)

(d) has a gradient of -3 and passes through the point (-2, 8)

(e) has a gradient of -5 and passes through the point $(3, -1)$

(f) has a gradient of $\frac{1}{2}$ and passes through the point $(4, 5)$

Find the equation of the line that passes through points:

a. $(1, 5)$ $(4, 14)$

b. $(2, 3)$ $(7, 13)$

c. $(1, 7)$ $(4, 22)$

d. $(-5, 3)$ $(-3, 4)$

e. $(4, 5)$ $(2, 7)$

1. Find 'm'
2. Write $y = mx + c$ with value for 'm'
3. Substitute a co-ordinate pair to find 'c'