Nat 5 Revision: Straight Line Graphs & Equations

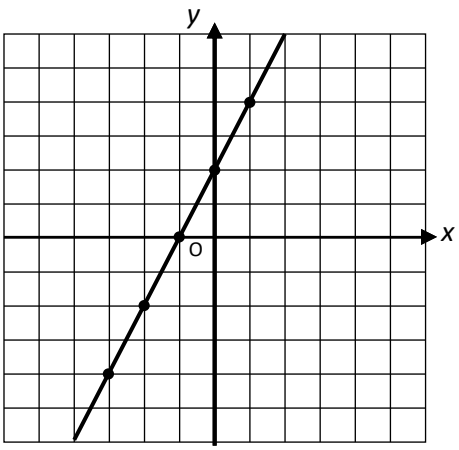
1. For each line, write down the gradient and the coordinates of the point where it crosses the y – axis.

(a) $y = 3x + 1$ **(b)** $y = \frac{1}{2}x - 5$ **(c)** $y = -2x + 3$

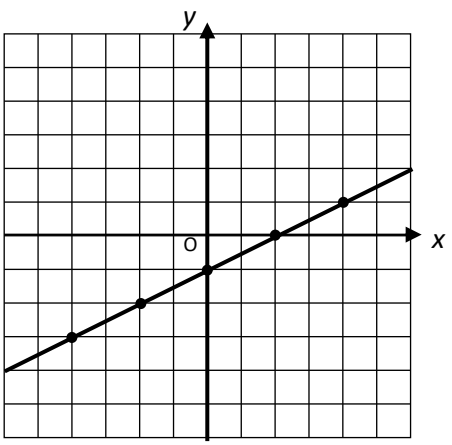
(d) $y = -\frac{1}{4}x - 2$ **(e)** $y = 8x - \frac{1}{2}$ **(f)** $y = -x + 4$

2. Write down the equation of the lines drawn in the diagrams below.

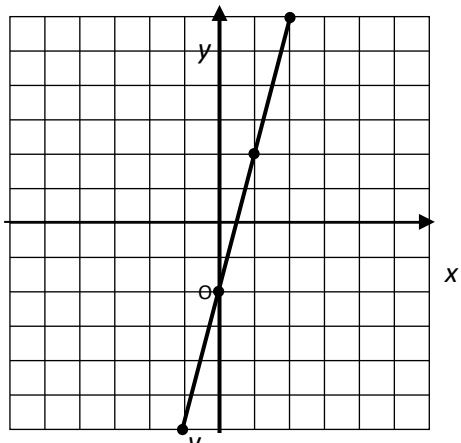
(a)



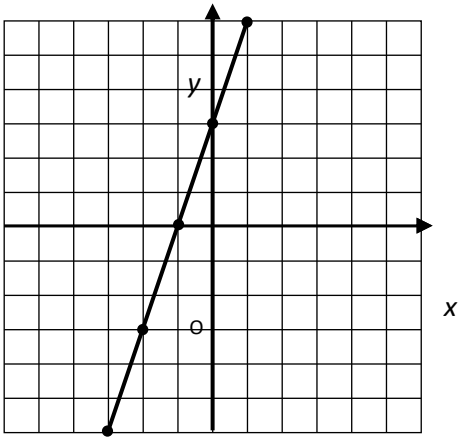
(b)



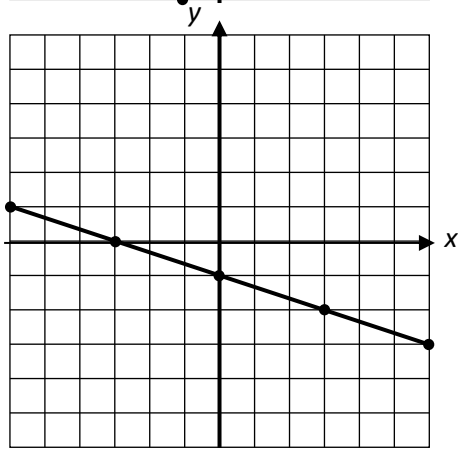
(c)



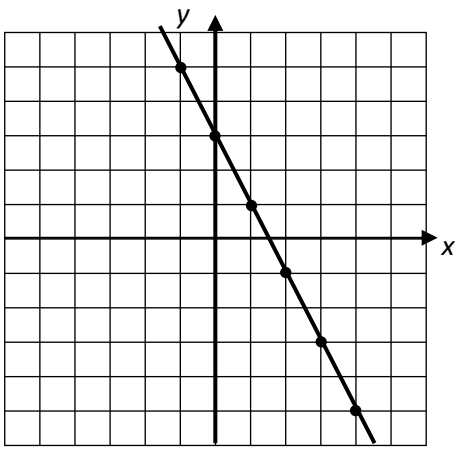
(d)



(e)



(f)



3. Write down the equation of the lines with the given gradients passing through the given points:

(a) gradient 4, through (0, 5) **(b)** gradient −2, through (0, 1)

(c) gradient ¾, through (0, −3) **(d)** gradient 4, through (3, 1)

4. Calculate the gradient of the line joining each pair of points below:

(a) A(−2, 6) and B(8, 8) **(b)** C(3, −3) and D(4, −1) **(c)** E(5, −9) and F(8, −15)

(d) G(0, 6) and H(5, 11) **(e)** I(−1, −3) and J(7, −9) **(f)** K(−4, 0) and L(−1, 5)

5. Find the equation of the line joining each pair of points below.

(a) (4, 3) & (8, 11) **(b)** (1, 9) & (3, 1) **(c)** (−2, 6) & (8, 8) **(d)** (5, −9) & (8,−15)

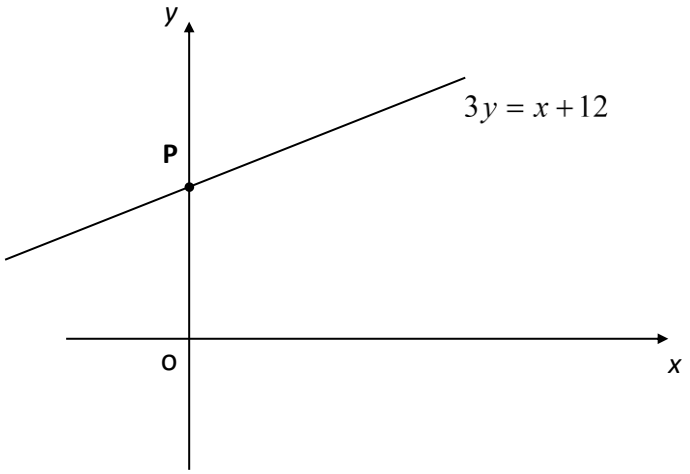
(e) (0, 6) & (5, 11) **(f)** (−1,−3) &(7, −9) **(g)** (−4, 0) & (−1, 5) **(h)** (2, 2) & (−3, 4)

6. A straight line has the equation $3x - 2y = -4$. Find the gradient and y-intercept of the line.

7. Find the gradient and y - intercept of the straight line with equation $3x - 4y = 12$.

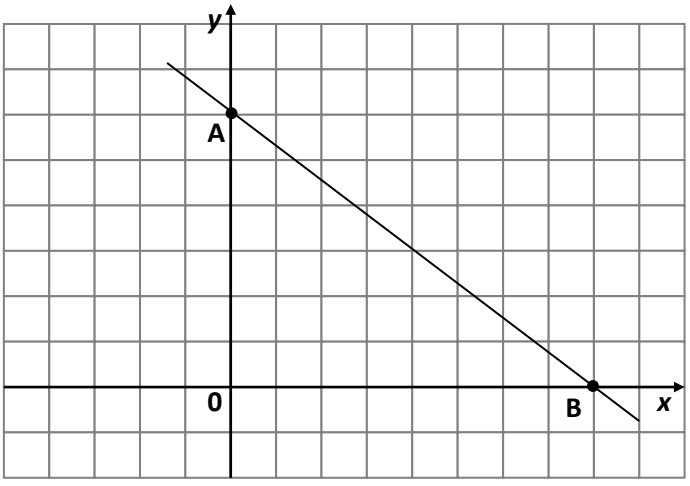
8. A line has equation $2y + 6x = 9$. Find its gradient and y - intercept.

9. The diagram below shows the line with equation $3y = x + 12$.



Find the coordinates of **P**, the point where the line cuts the y-axis.

10. The line AB passes through the points (0, 6) and (8, 0) as shown in the diagram.



Find the equation of the line AB.