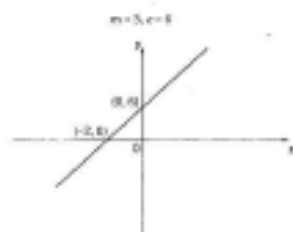
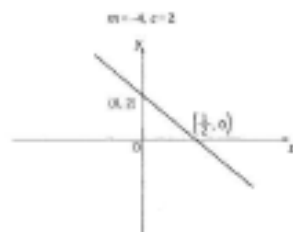


## 3.1 Straight-line graphs

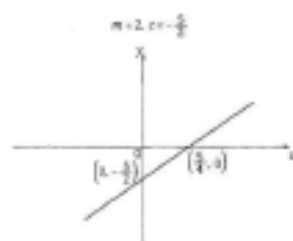
1 a



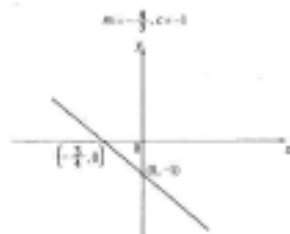
b



c



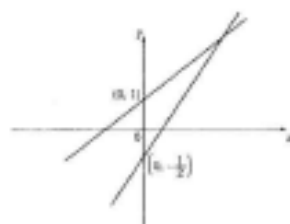
d



2 a  $m=2, c=-1$     b  $m=\frac{3}{2}, c=1$

c  $m=\frac{4}{3}, c=-\frac{1}{3}$     d  $m=-2, c=12$

3 a



b  $\frac{2}{3}$

4 a

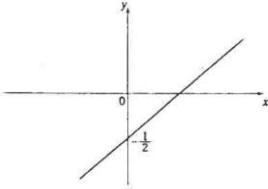


b  $\frac{14}{3}$

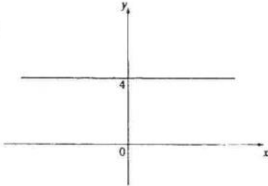
- 5 a  $2y + x + 3 = 0$     b  $3y + 2x - 1 = 0$   
 c  $4y + 3x - 2 = 0$     d  $6y - 4x + 15 = 0$

6 A = (1), B = (4), C = (2), D = (3)

7 a Straight line:

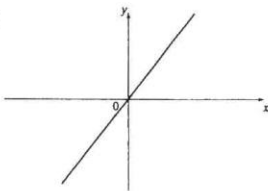


b Straight line:



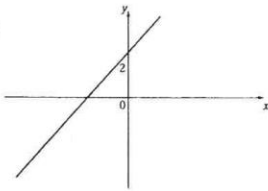
c Not a straight line

d Straight line:



e Not a straight line

f Straight line:



8 a  $-\frac{1}{2}$     b  $-\frac{2}{3}$     c  $6y + 3x + 4 = 0$

9 a  $a = 2, b = -5$     b 15

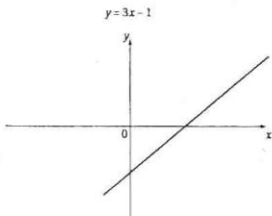
### 3.2 The equation of a line

1 a 2    b 5    c  $\frac{1}{2}$     d -3

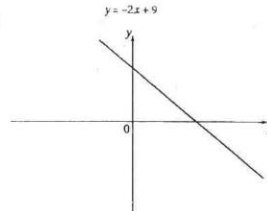
2 a  $-\frac{1}{2}$     b  $2y + x = 6$     c (6,0)

3 a  $y = 4x - 5$     b  $y = -7$     c  $2y + 3x = 8$

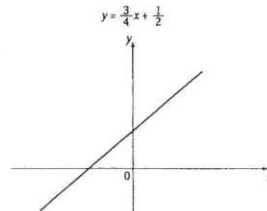
4 a



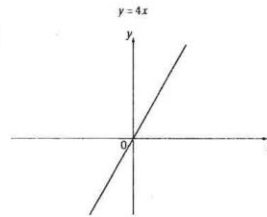
b



c



d



5 a 13    b 5    c 2

6 a  $y = \frac{3}{2}x + 3$     b (0,3)    c (-2,0)    d 3

7 a A(0,2), B( $\frac{3}{2}$ , 0)

b Hint: Use Pythagoras' theorem on the triangle OAB, where O is the origin.

8 a -2

b B does not lie on this line. If you substitute  $x = -7$  into the equation,  $y = -2(-7) - 3 = 14 - 3 = 11$

which is not the y-coordinate of B.

9 a Hint: Substitute  $x = \frac{5}{2}, y = \frac{1}{2}$  into the equation.

b  $-\frac{9}{2}$     c  $\frac{81}{16}$

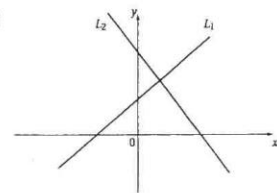
10 a Hint: Simplify  $\frac{4 - 4k}{k - 1}$

b  $y = -4x + 4k + 4$

c Hint: Make  $y = 0$  in the equation and find x.

d 2

11 a Hint: Start by showing the gradient of the line is  $\frac{2}{3}$ .



c Hint: Show that the values  $x = 6$  and  $y = 5$  satisfy both equations

d 39