

1. For each relation, state the slope and y-intercept.

a) $y = -\frac{1}{4}x + 11$
 slope: $-\frac{1}{4}$
 y-intercept: 11

b) $y = 5x - 9$
 slope: 5
 y-intercept: -9

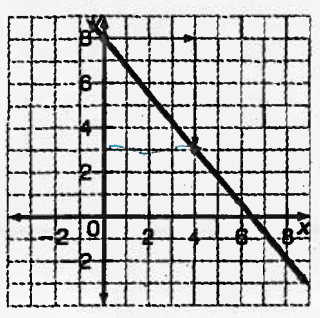
2. Use the given information to write the equation of each line in the form $y = mx + b$.

a) slope = $-\frac{1}{3}$ and y-intercept = 2 $y = -\frac{1}{3}x + 2$

b) $m = 4$ and $b = -3$ $y = 4x - 3$

c) parallel to $y = 3x - 5$ and y-intercept = 8 $y = 3x + 8$

d) Determine the slope and y-intercept of this line.



$(0, 8), (4, 3) \quad m = -\frac{5}{4}$

$y = -\frac{5}{4}x + b$

sub in $(0, 8)$

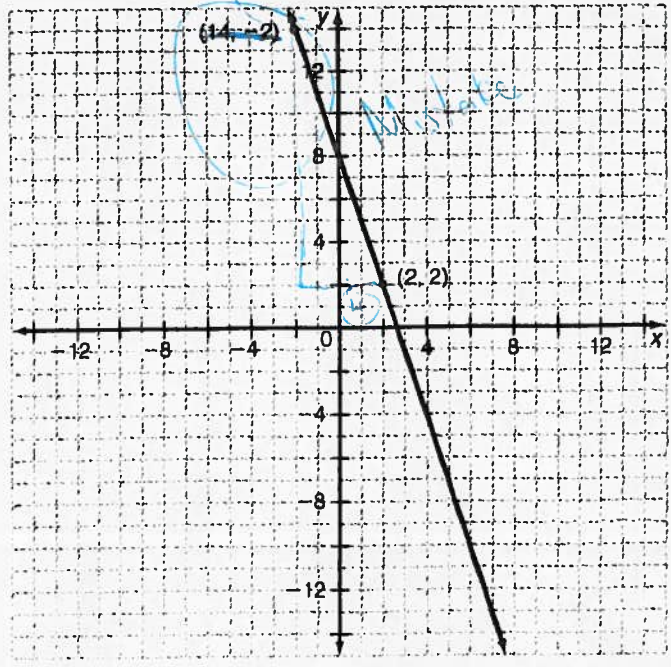
$y = -\frac{5}{4}x + b$

$8 = -\frac{5}{4}(0) + b$

$8 = b$

$y = -\frac{5}{4}x + 8$

e) Write the equation for each graph below. First determine the slope and y-intercept.



~~$m = \frac{14-2}{-2-2} = \frac{12}{-4} = -3$~~

$m = -3$
 $(0, 8)$

slope: _____

y-intercept: _____

equation: _____

$y = -3x + 8$

and $y = \frac{1}{3}x + b$
 $2 = \frac{1}{3}(2) + b$
 $2 - \frac{2}{3} = b$
 $\frac{4}{3} = b$

3. Graph each line from the given information.

a) through the points (2, 4) and (6, 9)

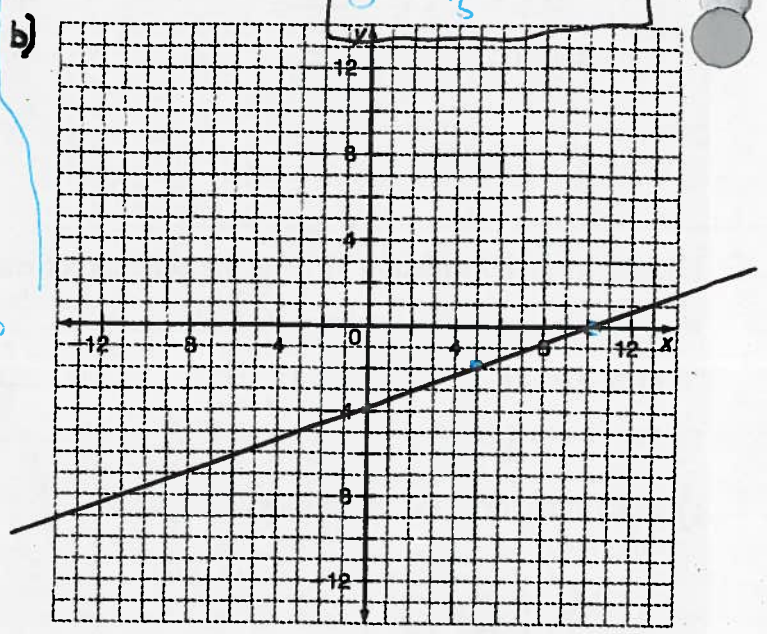
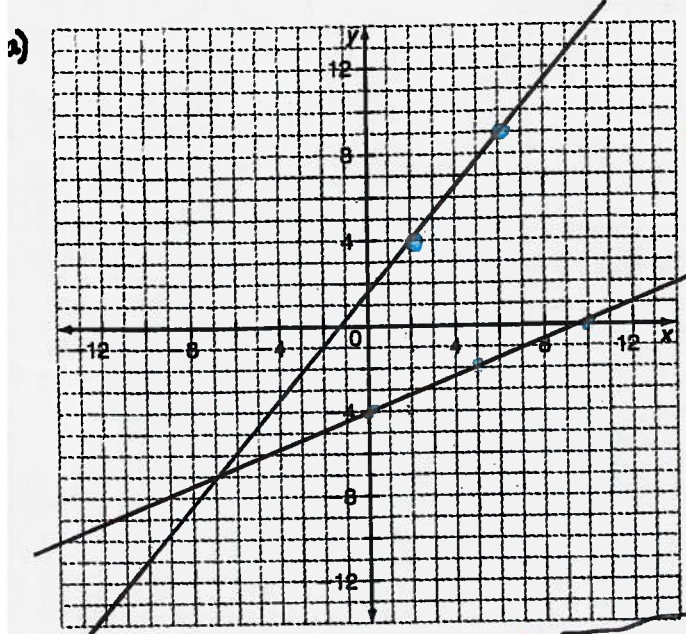
b) $m = \frac{2}{5}$ and $b = -4$

$y = \frac{5}{4}x + b$
 $4 = \frac{5(2)}{4} + b$
 $4 - \frac{10}{4} = b$
 $\frac{16-10}{4} = b$
 $\frac{6}{4} = b$
 $\frac{3}{2} = b$

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

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

$y = \frac{2}{5}x - 4$



~~$y = \frac{5}{4}x + \frac{3}{2}$~~
 $y = \frac{5}{4}x + \frac{3}{2}$

4. Find the equation of the line that passes through this pair of points.

(4, 3) and (2, 9)

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 3}{2 - 4} = \frac{6}{-2} = -3$

Sub into $y = -3x + b$
 $3 = -3(4) + b$
 $3 = -12 + b$

$y = -3x + 15$

$15 = b$

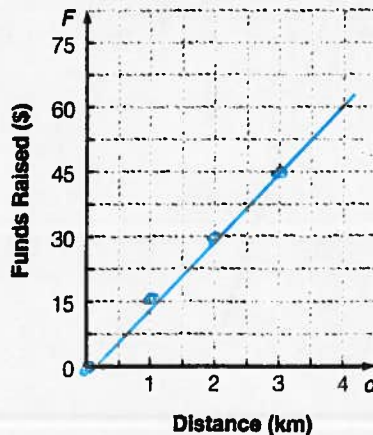
5. Jennie plans to enter a walkathon at school, to raise money for a children's charity. Her neighbour sponsored her for \$15.00 per kilometre.

a) Create a table of values for the 4-km walkathon.

Distance (km)	0	1	2	3	4
Funds Raised (\$)	0	15	30	45	60

b) Plot the points, then join them with a line.

Funds Raised by Jennie



Slope = $\frac{15-0}{1-0} = 15$

or Slope = $\frac{30-0}{2-0} = \frac{30}{2} = 15$

$y = 15x + 0$
 $y = 15x$

c) Find the equation for the line.

$y = 15x$