Practise: Graph Linear Relations by Hand

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

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

   slope: $-1/4$

   y-intercept: 11
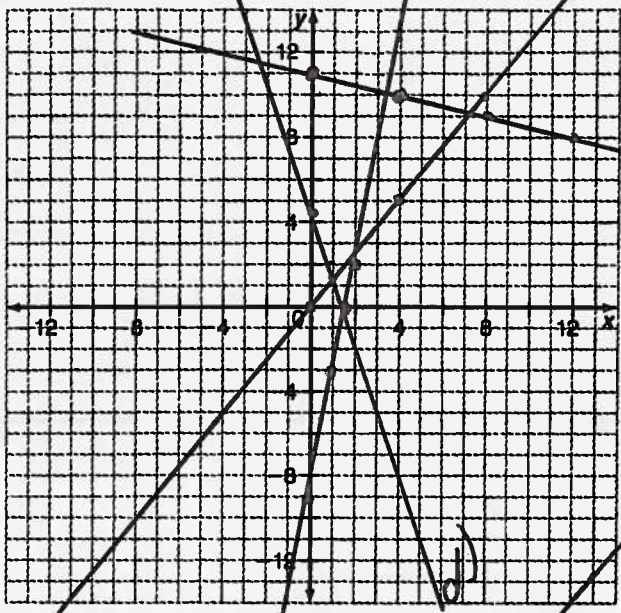
b) $y = 5x - 9$

   slope: 5

   y-intercept: -9

c) $y = \frac{4}{5}x$

   slope: $4/5$

   y-intercept: 0

d) $y = -3x + \frac{9}{2}$

   slope: -3

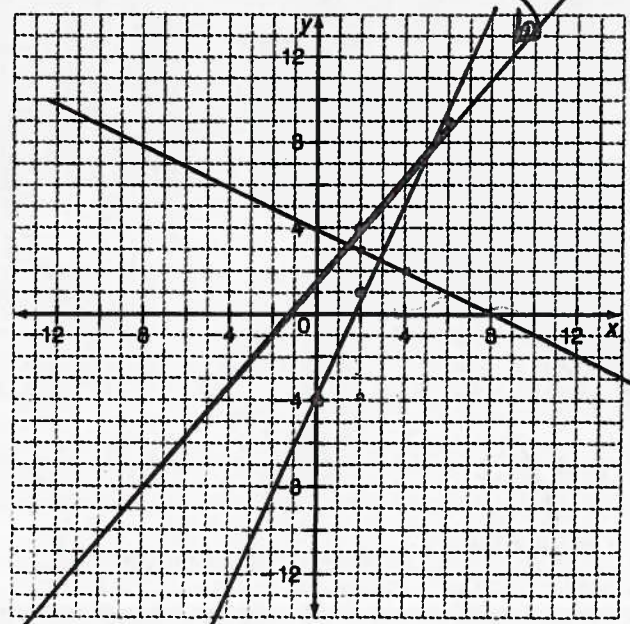   y-intercept: $9/2$

2. Graph each line in question 1.

3. Graph each line from the given information.
   a) through the points (2, 4) and (6, 9)

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

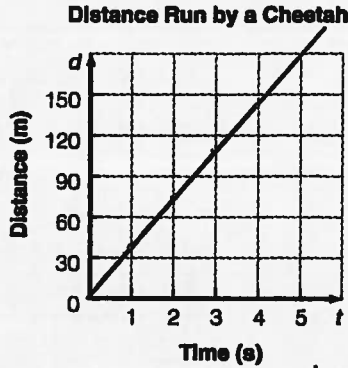   c) $m = -\frac{1}{2}$ and through the point (2, 3)

4. A cheetah can run 33 m in one second.

a) Use this information to create a table of values starting at $t = 0$ and going to $t = 4$ s.

Time (s)	0	1	2	3	4
Distance (m)	0	33	66	99	132

b) Plot the data in the table and draw a line passing through the points.

$$m = \frac{33-0}{1-0} = 33$$

Distance Run by a Cheetah

no y-int

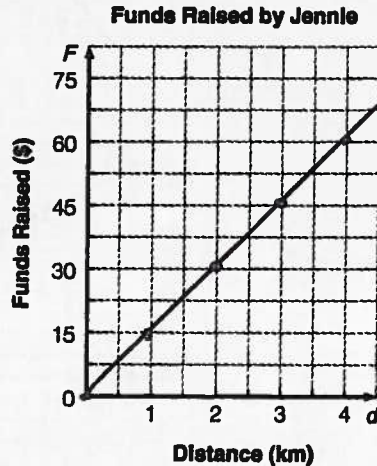c) Find the equation of the line you drew in part b). $\underline{\qquad d = 33t \quad \text{or} \quad y = 33x}$

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

c) Find the equation for the line.

$$\text{y-int} = 0$$

$$m = \frac{30-0}{2-0} = \frac{30}{2} = 15$$

The equation for the line is $\underline{\qquad\qquad}$.

$$F = 15d \quad \text{or} \quad y = 15x$$