ALL SORTS OF INFORMATION

TASK 1 Read equations

Determine the gradient and y-intercept of each line. You may need to rearrange the equation.

a $y = 8x - 3$	**b** $5x + y = 7$
c $y = \frac{3x}{4} + 2$	**d** $y = \frac{3x+2}{4}$
e $x - 4y + 12 = 0$	**f** $\frac{x}{5} + \frac{y}{2} = 0$

TASK 2 Try two methods

Use two different methods to determine the equation of a line with gradient –4 which passes through the point (3, –10). Consider which method you prefer.

Method 1 – Use $y = mx + b$	**Method 2** – Use $y - y_1 = m(x - x_1)$
Substitute into $y = mx + b$ to first find the value of b.	Substitute into $y - y_1 = m(x - x_1)$ and then rearrange the equation.

TASK 3 Use any method

Use the given information to determine the equation of each line.

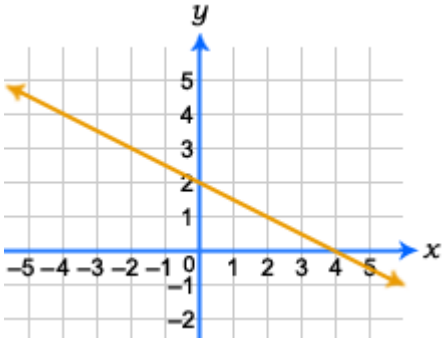
a Gradient = 2 and passing through (0, 7)

b Gradient = 2 and passing through (7, 0)

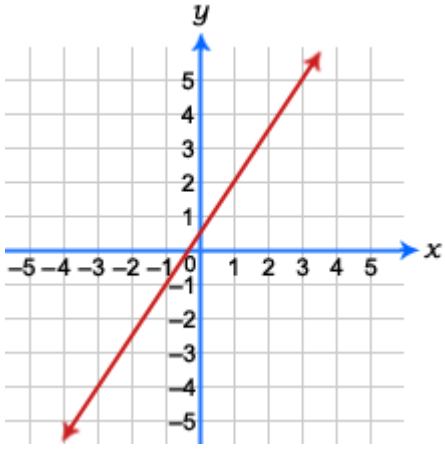
c Gradient = –1 and passing through (2, –3)

d Gradient = $\frac{2}{5}$ and passing through (–5, 3)

e



f



TASK 3 Use any method (cont'd)

g Parallel to $y = 8 - 3x$ and passing through $(4, 1)$	**h** Parallel to $3x + 4y - 1 = 0$ with an x-intercept at 24
i Perpendicular to $x + 7y - 6 = 0$ and passing through the origin	**j** Intersects $y = 2x - 18$ at right angles at $(5, -8)$
k Passes through $(4, 3)$ and $(-7, 8)$	**l** Passes through $(\frac{1}{4}, -1)$ and $(\frac{1}{3}, 2)$

TASK 4 Use data

The temperature in a chamber is forced to rise. At 8 am the temperature was 7.2°C and at 10 am it was 13.4°C. If the change in temperature is linear, determine an equation for the temperature at any given time and hence find the expected temperature at 5 pm the same day.