## The Straight Line

## Unit level:

1. Find the equation of the straight line with gradient 2 and $y$-intercept $(0,-7)$.
2. Find the equation of the straight line with gradient -3 and passes through the point $(-1,-3)$

## Assessment level:

3. In the diagram, $A$ is the point $(-1,-7)$ and $B$ is $(4,3)$ :
(a) Find the gradient of the line $A B$
(b) $A B$ cuts the $y$-axis at the point $(0,-5)$. Write down the equation of the line $A B$.

4. The tank of a car contains 5 litres of petrol. The graph shows how the volume of petrol in this tank changes as a further 45 litres of petrol is pumped in at a steady rate for 60 seconds.


Time in seconds
Find the equation of the straight line in terms of $V$ and $t$
5. A straight line has equation $4 x+3 y=12$. Find the gradient of this line.
6. Find an expression for the gradient of the line joining point $A(6,9)$ to point $B\left(4 p, 4 p^{2}\right)$. Give your answer in its simplest form.
7. A straight line is represented by the equation $y=m x+c$. Sketch a possible straight line graph to illustrate this equation when $\mathrm{m}>0$ and $\mathrm{c}<0$.

