# Finding a line from information

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

**1.** Find the line of gradient 2 through $(1, 5)$. [2 marks]

$5 = 2(1) + c$ gives $c = 3$.

**Answer:** $y = 2x + 3$

**2.** Find the line of gradient 1/2 through $(4, -1)$. [2 marks]

$-1 = 2 + c$ gives $c = -3$.

**Answer:** $y = \frac{1}{2}x - 3$

**3.** Find the equation through $(0, 6)$ and $(3, 0)$. [3 marks]

$m = (0 - 6)/(3 - 0) = -2$.

The first point gives $c = 6$.

**Answer:** $y = -2x + 6$

**4.** Find the equation through $(-2, -1)$ and $(2, 7)$. [3 marks]

$m = (7 + 1)/(2 + 2) = 2$.

$-1 = 2(-2) + c$ gives $c = 3$.

**Answer:** $y = 2x + 3$

**5.** Find the equation through $(5, -2)$ and $(5, 6)$. [2 marks]

The $x$-coordinate is 5 at both points.

The line is vertical.

**Answer:** $x = 5$

**6.** A straight path passes through $(1, 3)$ and $(5, 3)$. Write its equation and state its gradient. [2 marks]

Both points have the same $y$-coordinate.

There is no vertical change, so $m = 0$.

**Answer:** $y = 3$; gradient 0.