Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

- substitute $m = 4$ and $c = -3$

$$\mathbf{y = 4x - 3}$$

2.2

- divide the whole equation by 2: $y = 3x - 2.5$

$$m = \mathbf{3}, \quad c = \mathbf{-2.5}$$

2.3

- the point $(0, 5)$ IS the y-intercept, so $c = 5$

$$\mathbf{y = -2x + 5}$$

3.1

(a)

- $\dfrac{16 - 4}{5 - 1} = \dfrac{12}{4}$

$$= \mathbf{3}$$

(b)

- $y = 3x + c$, and substituting $A(1, 4)$ gives $4 = 3(1) + c$
- $c = 1$

$$\mathbf{y = 3x + 1}$$

- check with B: $3(5) + 1 = 16$, which matches

3.2

(a)

- the y-intercept is $c = -6$

$$(\mathbf{0},\ \mathbf{-6})$$

(b)

- set $y = 0$: $0 = 2x - 6$

$$x = 3, \text{ so } (\mathbf{3},\ \mathbf{0})$$