

Solutions

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

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

2.1

$$\begin{aligned} \bullet \quad \frac{17-5}{6-2} &= \frac{12}{4} \\ &= \mathbf{3} \end{aligned}$$

2.2

$$\begin{aligned} \bullet \quad \frac{0-4}{5-(-3)} &= \frac{-4}{8} \\ &= -\frac{1}{2} \end{aligned}$$

2.3

$$\begin{aligned} \bullet \quad &\text{the line is horizontal, so } y \text{ never changes} \\ &= \mathbf{0} \end{aligned}$$

3.1

(a)

$$\begin{aligned} \bullet \quad \frac{-3-9}{2-(-4)} &= \frac{-12}{6} \\ &= \mathbf{-2} \end{aligned}$$

(b)

$$\begin{aligned} \bullet \quad &\text{from } A \text{ to } C \text{ the gradient is still } -2: \frac{5-9}{k-(-4)} = -2 \\ \bullet \quad &-4 = -2(k+4), \text{ so } -4 = -2k - 8 \\ &k = \mathbf{-2} \end{aligned}$$

3.2

$$\begin{aligned} \bullet \quad &\text{from } x = 2 \text{ to } x = 5 \text{ is } 3 \text{ across, so } y \text{ rises by } 3 \times 3 = 9 \\ &1 + 9 = \mathbf{10} \end{aligned}$$