## Solutions

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

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

**2.1**

- substitute $x = 5$, $y = 2$
- $4(5) - 3(2) = 20 - 6 = \mathbf{14}$

**2.2**

- collect like terms
- $7p - 3p + 2q + 5q = \mathbf{4p + 7q}$

**2.3**

- $(-3)^2 = 9$
- $2(9) + 1 = \mathbf{19}$

**2.4**

- multiply the numbers, then the letters: **12xy**

**2.5**

- $n$ pens cost $45 \times n = 45n$; 3 rulers cost $3r$

$$\text{total} = \mathbf{45n + 3r} \text{ cents}$$

**3.1**

- $5a^2 - a^2 = 4a^2$, $-2ab + 6ab = 4ab$
- $\mathbf{4a^2 + 4ab + 3}$

**3.2**

- substitute $a = 7$, $b = 1$

$$\frac{2(7) + 1}{7 - 1} = \frac{15}{6} = \mathbf{\frac{5}{2}}$$

**3.3**

- $(-2)^2 = 4$ and $-5(-2) = 10$
- $3(4) + 10 = \mathbf{22}$

**3.4**

- numerator: $(-3)^2 - 2^2 = 9 - 4 = 5$; denominator: $2 \times (-3) \times 2 = -12$

$$\frac{5}{-12} = -\mathbf{\frac{5}{12}}$$

**3.5**

(a)

- perimeter $= 2(3x + 2) + 2(x - 1) = 6x + 4 + 2x - 2$

$$= \mathbf{8x + 2} \text{ cm}$$

(b)

- $8 \times 4 + 2 = \mathbf{34}$ cm