Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

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

2.1

- **90**°, angle in a semicircle

2.2

- angle $ACB = 90°$, angle in a semicircle
- $180 - 90 - 48 = \mathbf{42}°$

2.3

- **90**°, a tangent meets the radius at 90°

2.4

- angle $OTP = 90°$
- $y = 180 - 90 - 58 = \mathbf{32}°$

2.5

- $OP^2 = 5^2 + 12^2 = 169$
- $OP = \mathbf{13}$ cm

3.1

- angle $ACB = 90°$, angle in a semicircle
- $2x + 3x = 90$
- $\mathbf{x = 18}$

3.2

(a)

- angle $ACB = 90°$, angle in a semicircle
- $BC^2 = 10^2 - 6^2 = 64$
- $BC = \mathbf{8}$ cm

(b)

- $\frac{1}{2} \times 6 \times 8 = \mathbf{24}$ cm^2

3.3

(a)

- **90**°, the tangent meets the radius OB at 90°

(b)

- $180 - 90 - 40 = \mathbf{50}°$

(c)

- **90**°, angle in a semicircle

(d)

- angle $BCD = 180 - 90 = 90°$, angles on a straight line
- angle $CBD = 180 - 90 - 50 = \mathbf{40}°$