

Solutions

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

2.1

- $v = r\omega = 0.50 \times 6.0 = 3.0 \text{ m s}^{-1}$

2.2

- $a_t = r\alpha = 0.20 \times 5.0 = 1.0 \text{ m s}^{-2}$

2.3

(a)

- equal — same angular speed for both

(b)

- the point at 0.30 m, since $v = r\omega$

2.4

- $s = r\theta = 2.0 \times 3.0 = 6.0 \text{ m}$

3.1 B

3.2 B

3.3

(a)

- $v = r\omega = 0.35 \times 20 = 7.0 \text{ m s}^{-1}$

(b)

- 7.0 m s^{-1} (rolling without slipping)