

Solutions

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

2.1

- $\alpha = \frac{\tau}{I} = \frac{12}{3.0} = 4.0 \text{ rad s}^{-2}$

2.2

- it halves ($\alpha \propto 1/I$)

2.3

- $\tau = I\alpha = 0.50 \times 8.0 = 4.0 \text{ N m}$

3.1 B

3.2 B

3.3

(a)

- $\alpha = \frac{5.0}{0.25} = 20 \text{ rad s}^{-2}$

(b)

- $\omega = \omega_0 + \alpha t = 0 + 20(4.0) = 80 \text{ rad s}^{-1}$