Exercise 9-22

$$\omega = \omega_0 + \alpha t$$

$$\therefore \alpha = \frac{\omega - \omega_0}{t} = \frac{(2.15 - 4.25)\ \text{rad/s}}{6.50\ \text{s}} = -0.323_1\ \text{rad/s}^2$$

$$\tau_{net} = I\alpha$$

$$\therefore |\text{frictional torque}| = (31.5\ \text{kg}\cdot\text{m}^2)(0.323_1\ \text{rad/s}^2)$$

$$= 10.2\ \text{N}\cdot\text{m}$$