

Exercise 9-28

$$\omega_1 = \frac{2.00 \text{ rev}}{1.30 \text{ s}} = 1.538 \frac{\text{rev}}{\text{s}}$$

Angular momentum is conserved $\therefore I_1 \omega_1 = I_2 \omega_2$

$$\therefore \omega_2 = \frac{I_1}{I_2} \omega_1 = \frac{4.60 \text{ kg}\cdot\text{m}^2}{19.0 \text{ kg}\cdot\text{m}^2} \times 1.538 \frac{\text{rev}}{\text{s}} = 0.3725 \frac{\text{rev}}{\text{s}}$$

$$\therefore \# \text{ of rev's in } 1.60 \text{ s} : 0.3725 \frac{\text{rev}}{\text{s}} \times 1.60 \text{ s} = 0.596 \text{ rev}$$