

$$M := 3.4 \text{N} \cdot \text{m} \quad r := 8 \text{cm}$$

$$\overset{\text{F}}{\text{M}} := \frac{M}{r} = 42.5 \text{N}$$

$$\text{mass} := \frac{90 \text{kg}}{2} = 45 \text{kg}$$

$$a := \frac{F}{\text{mass}} = 0.944 \frac{\text{m}}{\text{s}^2}$$

$$\omega_{\text{cyc}} := \frac{2000 \text{rpm}}{22} = 90.909 \text{rpm}$$

$$\omega_{\text{rad}} := \omega_{\text{cyc}} \cdot 2\pi = 59.816 \frac{\text{rad}}{\text{s}}$$

$$v := \omega_{\text{rad}} \cdot r = 4.785 \frac{\text{m}}{\text{s}}$$

$$v = 17.227 \frac{\text{km}}{\text{hr}}$$