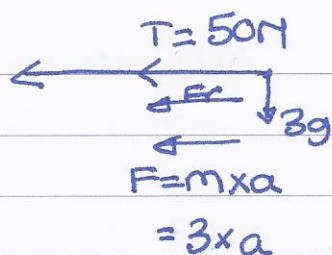


$$\uparrow R = 3g$$

8



$$Fr = \mu R = 0.4 \times 9.8 \times 3$$

$$T + Fr =$$

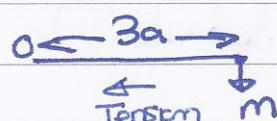
$$50 + 11.76 = 61.76 \text{ N}$$

$$61.76 = ma = 3a$$

$$a = 20.586$$

$$a = r\omega^2 \quad 20.586 = 0.8\omega^2 \quad \omega^2 = \frac{20.586}{0.8} = 25.7325 \quad \omega = 5.07 \text{ rad/s}$$

9



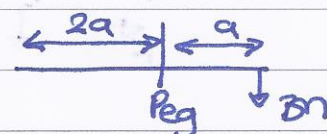
$$\omega = \omega$$

$$F = ma \quad a = r\omega^2$$

$$= m \times 3a \times \omega^2$$

$$\text{Tension} = 3am\omega^2$$

$$v = r\omega$$



$$v = r\omega$$

$$KE \text{ at Piv} = KE \text{ at End}$$

$$\frac{1}{2} m (3a\omega)^2 = \frac{1}{2} m (a\omega')^2$$

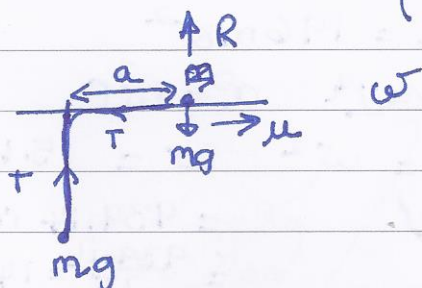
$$9a^2\omega^2 = a^2\omega'^2$$

$$\omega' = \sqrt{9\omega^2}$$

$$= 3\omega$$

$$F = ma = m(r\omega^2) = ma9\omega^2 = 9ma\omega^2$$

10



$$T + Fr =$$

$$T + Fr = mg$$