

34. $\alpha = ?$ $\alpha = \frac{d\omega}{dt} = \text{slope of } \omega - t$

$$= \frac{4 - -2 \text{ rad/s}}{4 - 0 \text{ s}}$$

$$\alpha = 1.5 \text{ rad/s}^2$$

b) $K(4\text{s}) = 1.6 \text{ J}$

$$K(0\text{s}) = ?$$

$$\omega(0) = -2 \text{ rad/s}$$

$$K = \frac{1}{2} I \omega^2$$

$$K = \frac{1}{2} I \omega^2$$

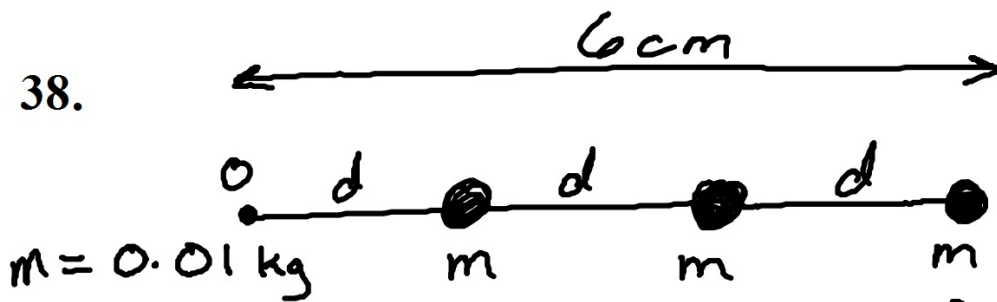
$$\frac{2K}{\omega^2} = I$$

$$I = I$$

$$\frac{2K}{\omega^2} = \frac{2K}{\omega^2}$$

$$\frac{2(1.6)}{(4)^2} = \frac{2(K)}{(-2)^2} \quad \text{K} = \underline{0.4 \text{ J}}$$

38.



$$I = md^2 + m(2d)^2 + m(3d)^2 = 14md^2$$

$$I = 14(0.01)(0.02)^2 = 5.6 \times 10^{-5} \text{ kgm}^2$$

$$\frac{\Delta I}{I_{\text{total}}} \times 100\% = ?$$

a) remove inner mass % reduced = ?

$$\frac{md^2}{14md^2} \times 100 = 7.14\%$$

b) remove outer mass
% I reduced = ?

$$\frac{9md^2}{14md^2} \times 100 = 64\% \text{ reduced}$$