

(2)

$$m = 0.5 \text{ kg}$$

$$F_c = 8 \text{ N}$$

$$r = 1 \text{ m}$$

$$v_T = ?$$

$$F_c = m a_c$$

$$8 = 0.5 a_c$$

$$16 \text{ m/s}^2 = a_c$$

$$a_c = \frac{v_T^2}{r}$$

$$16 = \frac{v_T^2}{1}$$

$$4 \text{ m/s} = v_T$$