

4.  $F_c = ?$   
 $m = 10 \text{ kg}$   
 $r = 5 \text{ m}$   
 $T = 0.5 \text{ s}$

$$v_T = \frac{2\pi r}{T}$$

$$v_T = \frac{2(3.14)5}{0.5}$$

$$v_T = 62.8 \text{ m/s}$$

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

$$a_c = \frac{62.8^2}{5} = 789 \text{ m/s}^2$$

$$F_c = ma_c$$

$$F_c = 10(789) = 7890 \text{ N}$$