P #B

Ch 7 - Worksheet

a) $r = 2.00\ m$
$t = 3.0\ sec$

$$V_t = \frac{2 \cdot \pi \cdot r}{t} = \frac{2 \cdot \pi \cdot (2.00\ m)}{(3.0\ sec)}$$

$$V_t = 4.2\ m/s$$

$$a_c = \frac{V_t^2}{r} = \frac{(4.2\ m/s)^2}{(2.00\ m)}$$

$$\boxed{a_c = 8.8\ m/s^2}$$

b) $\nu = ?$

$$F_c = F_f$$

$$\frac{m \cdot V_t^2}{r} = \nu (m \cdot g)$$

$$\frac{(4.2\ m/s)^2}{(2.0\ m)} = \nu \cdot (9.8\ m/s^2)$$

$$\boxed{\nu = .90}$$