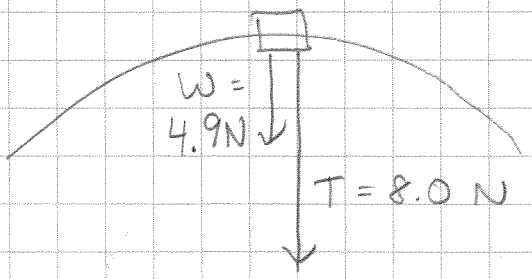
P #F

Ch 7

$m = .50\ kg$
$r = .60\ m$
$T = 8.0\ N$



$W = m \cdot g$
$= (.50\ kg)(9.8\ m/s^2)$
$W = 4.9\ N$

Find F_{net} (or F_c)

$F_{net} = W + T = (4.9\ N) + (8.0\ N)$

$F_{net} = F_c = 12.9\ N$

$F_{net} = F_c = \frac{m \cdot v_t^2}{r}$

$12.9\ N = \frac{(.50\ kg) \cdot v_t^2}{(.60\ m)}$

$\boxed{v_t = 3.9\ m/s}$