P 76 MC 13
P 78 Problem 14
P 115 Problem 38, 40, ~~[illegible]~~ (5)
Online - Kinetic Friction Rank

- Multiple Choice

(1) $m = 10\,kg$
$F = 200\,N$
$a = 5\,m/s^2$

Why not larger a?

b) Other forces exerted on crate so total F is reduced

- Problems

p 78 14) constant velocity block 2 faster constant v

compare resultant forces. Explain

(1)

F_{net}

$F_{net} = 0N$ for both b/c a=0

Constant speed

p 115 - Problems

38) $m = 91\ kg$
$\mu_s = .60$
$F_{min\ slide} = ?$

(1)

$F_f = \mu F_N = \mu mg$
$= (.60)(91kg)(9.81 m/s^2)$
$= 540N$

40) car runs out of gas at finish line

$V_0 = 16 m/s$ $V_f = 0 m/s$
$\mu = .90$
$x = 15m$ ← Will he make it?

$\Sigma F = ma$
$F_f = ma$
$\mu F_N = m\left(\frac{V^2 - V_0^2}{2x}\right)$

(1)

$\mu mg = m\left(\frac{V^2 - V_0^2}{2x}\right)$

a) Make it?

No

$x = \frac{-V_0^2}{2\mu g} = \frac{(16 m/s)^2}{2(.90)(9.81 m/s^2)}$

b) $x = 14.5m$

- Online Tutorial

- Eight crates different mass, pulled R at constant v, μ same all

- Rank ropes based on F exert on crate to left

$F_f = \mu F_N$ μ same for all
F_N determines F_f

(1)

$A = D > E = H > B = F = G > C$

pulls 6kg both | pulls 5kg both | pulls 3kg all | pulls 1kg