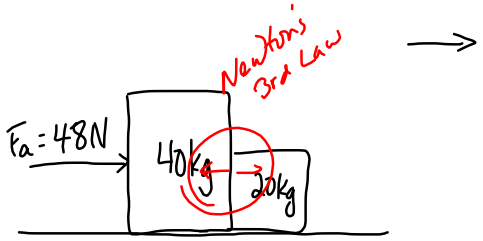
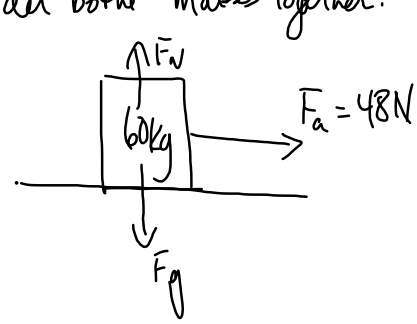
p208

27.



Consider both the masses together:



$\vec{F}_{net} = m\vec{a}$

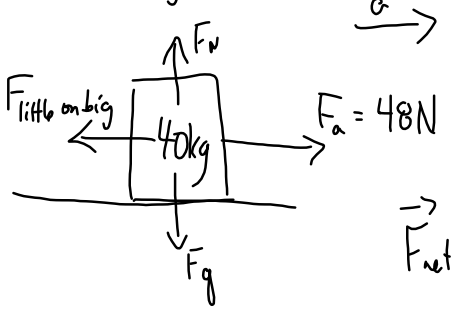
$F_a = ma$

$48N = (60kg)a$

$a = \frac{48N}{60kg}$

$a = 0.80 m/s^2$

Consider the Big box:



$\vec{F}_{net} = m\vec{a}$

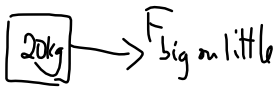
$F_a - F_{lonb} = ma$

$48N - F_{lonb} = (40kg)(0.80 m/s^2)$

$48N - F_{lonb} = 32N$

$F_{lonb} = 16N$

OR Consider only the little box:



$\vec{F}_{net} = m\vec{a}$

$F_{bonl} = (20kg)(0.80 m/s^2)$

$F_{bonl} = 16N$

p212

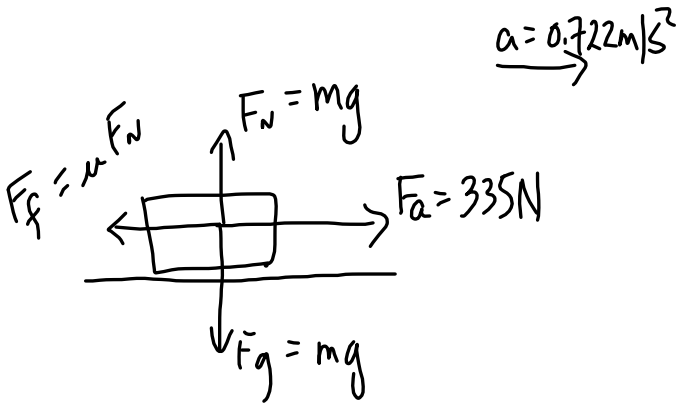
33.

$F_a = 335N$

$a = 0.722 m/s^2$

$\mu = 0.330$

$m = ?$



$\vec{F}_{net} = m\vec{a}$

$F_a - F_f = ma$

$335N - 0.330F_N = m(0.722 m/s^2)$

$335N - 0330(mg) = m(0.722 m/s^2)$ ($mg = F_N$)

$335N = (0.330)(9.81 m/s^2)m + (0.722 m/s^2)m$

Combine like terms or factor m