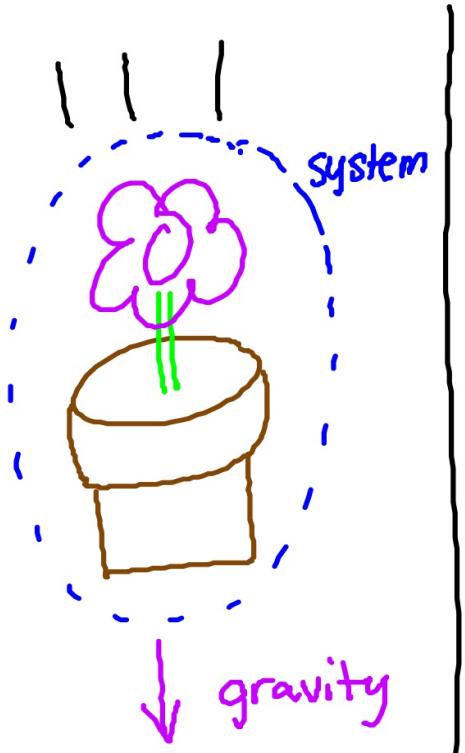
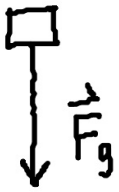
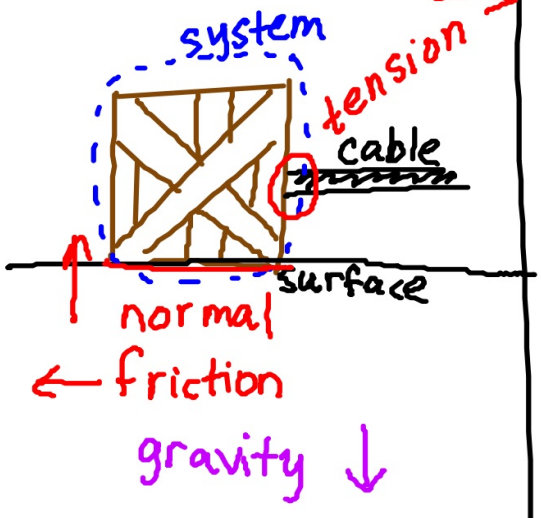
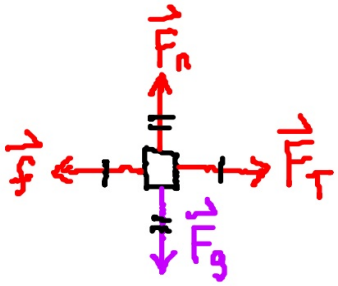
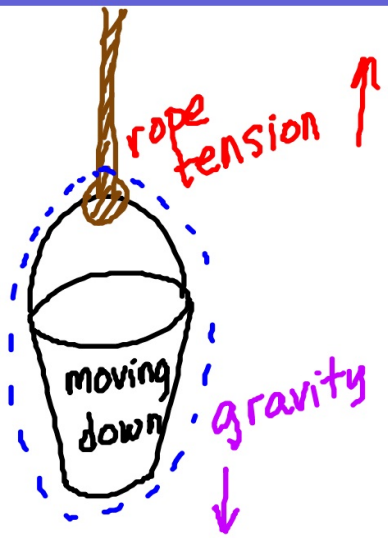


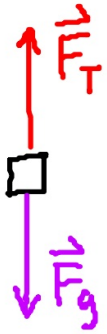


moving @ const. speed
↳ balanced forces ($F_{net} = 0N$)

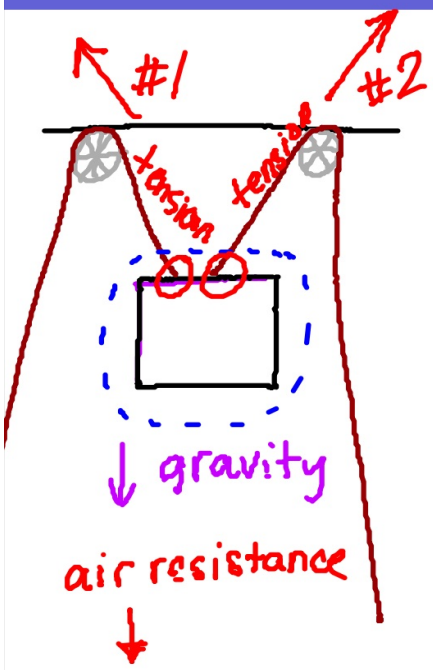


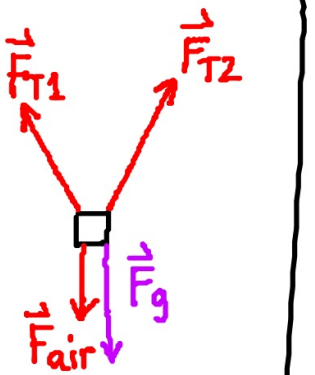




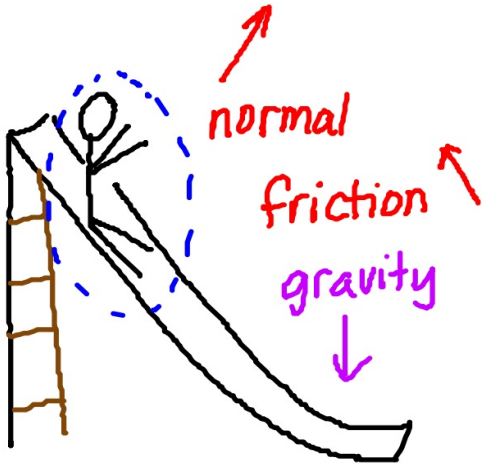


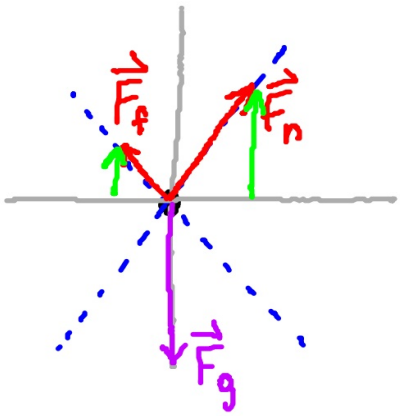
moving @ const. speed
↳ balanced forces (F_{net} = 0N)
ignore air resistance





y-direction
- $\vec{F}_g$
- $\vec{F}_{air}$





$F_{net} = ma$

$a = \frac{F_{net}}{m}$

$m = \frac{F_{net}}{a}$

$F_g = mg$

$m = \frac{F_g}{g}$

$g \approx 10 \frac{m}{s^2}$

$|\vec{F}_n| = |\vec{F}_g|$ horizontal surface

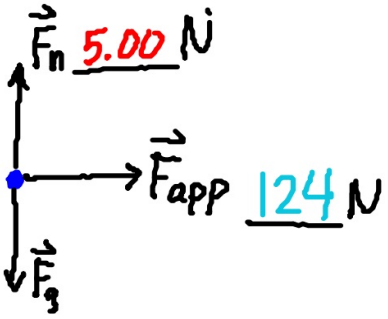
* only when object is NOT moving in vertical direction

(e)

$m = 0.500\,kg$

$\sum F = F_{net} = 124\,N$, right

$a = 248\ m/s^2$ right



$(\sum F)$

$a = \frac{F_{net}}{m} = \frac{124\,N}{.500\,kg}$

$a = 248\ \frac{m}{s^2}$, right

$F_g = mg = (.500\,kg)(10\ m/s^2)$

$= 5.00\,N$

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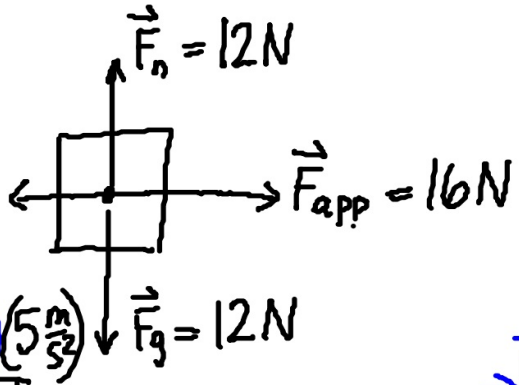
p.19 (Bottom Left)

$F_{net} = F_{app} - F_f$

$\sum F_x = 6\,N$, right

$\sum F_y = 0$



$F_{net} = ma = (1.2\,kg)(5\ m/s^2)$

$F_{net} = 6\,N$

$a = 5\ m/s^2$, right

$m = \frac{F_g}{g} = \frac{12N}{10\ m/s^2}$

$m = 1.2\,kg$

$F_{net} =$ ____

$\vec{F}_f = \mu \cdot \vec{F}_n$

$\frac{10N}{12N} = \mu \cdot \frac{12N}{12N}$

$.83 = \mu$

$\mu =$ ____

pg. 26

#5

Given:

$m = 76.5\,kg$

$0\ \frac{m}{s^2}$

$.15\,s$

$V_f = V_i + at$

$V_f = 0\frac{m}{s} + (32.2\frac{m}{s^2})(.15s)$

$V_f = 4.83\frac{m}{s}$

$F_{net} = F_{app} - F_g$

$F_{net} = 3225 - 765$

$F_{net} = 2460\,N$

$\vec{F}_{app} = 3225\,N$

$\vec{F}_g = mg = 765\,N$

$a = \frac{F_{net}}{m} = \frac{2460\,N}{76.5\,kg}$

$a = 32.2\frac{m}{s^2}$