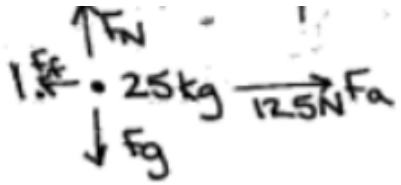
May 1, 2018

1) answers #1a,b Forces Practice WS

2) more examples

3) complete Forces Practice WS #1c-10

Reminder Test next Wednesday!!!



a) $F_{net} = F_f + F_a$

$0 = F_f + 125 - 125$

$-125 = F_f$

$-125\,N = F_f$

constant velocity $\therefore F_{net} = 0$

b) $F_N = mg$

$F_N = (25)(9.81)$

$F_N = 245\,N$

A 62 kg crate is pulled at a constant velocity with an applied force of 337 N.

c. Calculate the coefficient of kinetic friction.

c) $\mu = ?$ $|F_f| = \mu |F_N|$

$F_f = -337\,N$

$F_N = 608\,N$ $337 = \mu(608)$

$\frac{337}{608} = \mu$

$0.55 = \mu$

A box has a weight of 625 N and is being pulled with a net force of 12 N. The coefficient of kinetic friction is 0.23.

a. What is the mass of the box?

b. What is the force of friction?

c. What is the applied force?

a) weight = F_g = 625

$F_g = mg$

$625 = m(9.81)$

$64kg = m$

b) $F_{net} = 12$

$\mu = 0.23$

$F_f = ?$

$F_f = \mu F_N$

$F_f = (0.23)(625)$

$F_f = 144N$

c) $F_a = ?$

$F_{net} = \Sigma$ Forces

$F_{net} = F_a + F_f$

$12 = F_a - 144$

$F_a = 156N$

Remember these tips

- Draw a Free Body Diagram

- If it says constant velocity $F_{net} = 0$

- If you know the value of F_{net} and one force you can find the opposing force using $F_{net} = \Sigma$ Forces

- If $F_{net} = 0$ then the opposing forces are equal in magnitude but opposite in direction

- Weight = F_g

cont WS #1c-10