

Tues: Discussion / quiz

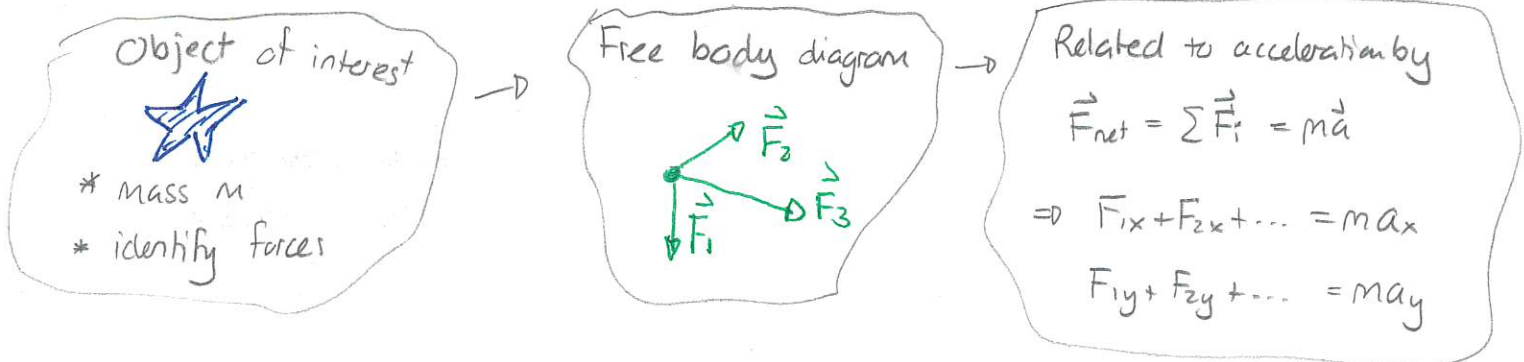
Ex 137, 141, 143, 147, 150, 151, 158, 162

Weds: Class will cover object on a ramp.

Fri: HW by Spm

Newtonian mechanics

Newton's Second Law follows:



What these instructions tell us to do is:

- 1) identify all force vectors
- 2) get the components of each force vector
- 3) add horizontal components, etc....
- 4) include as much information about acceleration

$\left. \begin{matrix} \Sigma F_{ix} = m a_x \\ \text{then ALGEBRA} \\ \text{produces} \\ \text{remaining} \\ \text{unknown info} \end{matrix} \right\}$

Equilibrium

A special case of dynamics is equilibrium where acceleration is zero. Frequently this is attained by having an object be at rest. Equilibrium is important for:

\* integrity of buildings + structures

Here  $\vec{F}_{net} = m\vec{a} \Rightarrow \vec{F}_{net} = 0 \Rightarrow$

$$\begin{aligned} \Sigma F_{ix} &= F_{1x} + F_{2x} + \dots = 0 \\ \text{AND} \\ \Sigma F_{iy} &= F_{1y} + F_{2y} + \dots = 0 \end{aligned}$$

Warm Up 1