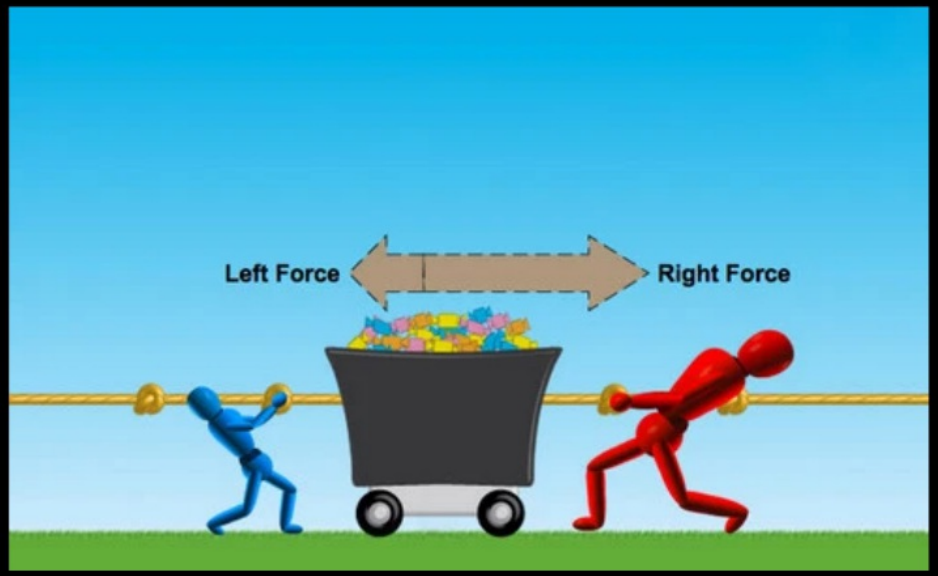
5.13.20

Newton's Laws: Wrap Up

- Today's Objectives:

- Recap Newton's Laws
- Calculate net force
- Use Newton's 2nd Law to calculate acceleration



Newton's Laws - Recap

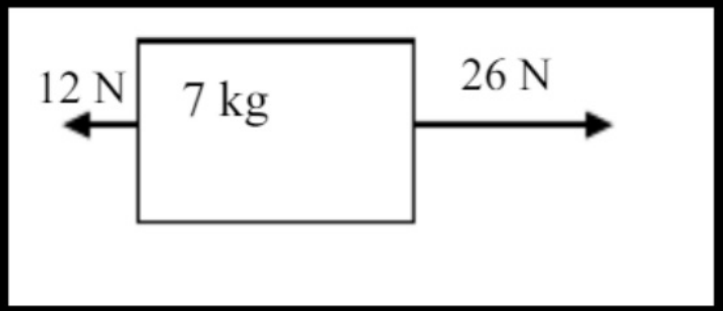
1st (Inertia) Still or CV stay unless a net [unbalanced] force acts

2nd (Acceleration) Accel → $a = \frac{\Sigma F}{m}$ (ΣF ← Net Force; m ← Mass)

3rd (Reaction) Action Force = Reaction Force

1. Net Force - How out of balance are the forces?? ΣF

2. Acceleration = Net Force /Mass



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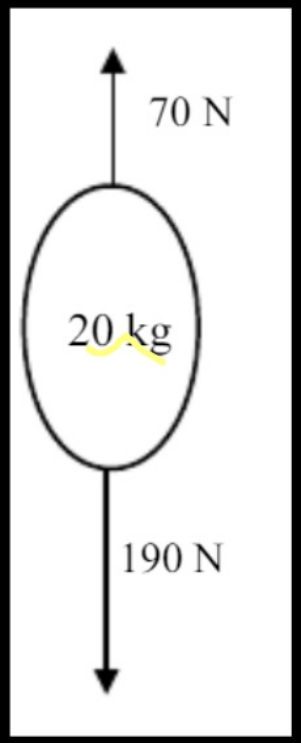
$\Sigma F = 14\ N \rightarrow$

$a = \Sigma F / m = 14/7 = 2\ m/s^2 \rightarrow$



$\Sigma F = 120 \downarrow$

$a = \frac{\Sigma F}{m} = \frac{120}{20}$

$6\ m/s^2 \downarrow$

Mike Tyson applies to force of 1,000N to this guy's face (ouch). According to Newton's 3rd Law, how hard does his face push back into Mike's hand?

A) more than 1,000 N

B) 1,000 N

Forces have to be equal!

C) less than 1,000 N

D) 0 N