

- debrief the online lessons: what's working, what's not...
- Friday's QUIZ will be in this same system
- brief lecture on Collisions and Conservation of Momentum

Apr 20-8:53 AM

$$\frac{1}{2} \frac{p^2}{m}$$

$$\frac{1}{2} \frac{p_c^2}{.043} = \frac{1}{2} \frac{p_b^2}{.147}$$

$$\frac{p_c}{p_b}$$

$$\frac{1}{2} \frac{p_c^2}{.043} \cdot .147 = \frac{1}{2} \frac{p_b^2}{.147} \cdot .147$$

$$\frac{p_c^2}{.043} \cdot .147 = \frac{p_b^2}{.147}$$

$$\frac{1}{.043} \cdot .147 = \frac{p_b^2}{p_c^2}$$

$$K = \frac{1}{2} m v^2$$

$$\frac{20}{147} = \frac{1}{2} v^2$$

$$\frac{20}{.043} = \frac{1}{2} v^2$$

Dec 2-1:30 PM

CONSERVATION OF P

↳ DOESN'T CHANGE

UNLESS AN EXTERNAL FORCE ACTS ON SYSTEM

(GROUP OF 1 OR MORE OBJECTS)

Dec 2-1:41 PM

COLLISIONS

APPLICATION OF CONS. OF P

2 TYPES OF COLLISIONS

ELASTIC

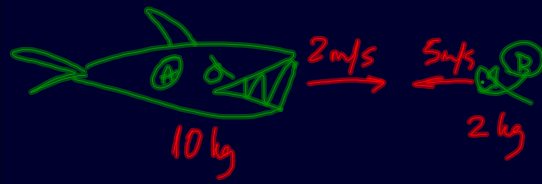
OBJECTS BOUNCE APART
 k IS CONSERVED

INELASTIC

OBJECTS STICK TOGETHER
 k NOT CONSERVED
↳ HEAT & DEFORMATION

Dec 2-1:46 PM

EX INELASTIC COLLISION
"FISH-EAT-FISH"



$$P_i = P_f$$

$$P_{Ai} + P_{Bi} = P_{ABf}$$

$$mV_A + mV_B$$

$$(10\text{ kg})(2\text{ m/s}) - (2\text{ kg})(5\text{ m/s}) = (12\text{ kg})V$$

$$20\text{ kgm/s} - 10\text{ kgm/s} = 12\text{ kg} V$$

$$10\text{ kgm/s} = 12\text{ kg} V$$

$$V = \frac{10\text{ kgm/s}}{12\text{ kg}}$$

$$V = \frac{5}{6}\text{ m/s}$$

Dec 2-1:54 PM