

HW Handout 4 d.)

$$d) \quad \Delta p = 90 \text{ kg} \cdot \frac{\text{m}}{\text{s}} \leftarrow \text{From c)}$$

$$J = \Delta p$$

$$F \cdot \Delta t = 90$$

$$F \cdot 0.1 = 90$$

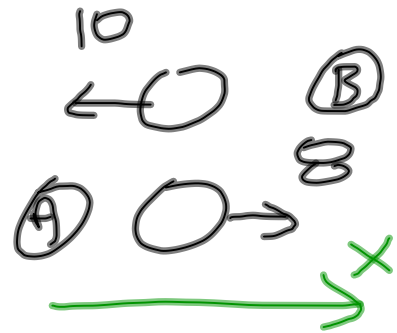
$$F = 900 \text{ N}$$

Jan 30-9:23 AM

$$c) \quad \Delta p = p_f - p_o$$

$$\Delta p = (8.5) - (-10)(5)$$

$$\Delta p = 90 \text{ kg} \cdot \frac{\text{m}}{\text{s}}$$



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If  $J = 0$  (system is isolated = no contact with the environment), then the momentum is conserved.

$$P_{iS} = P_{fS}$$

If  $J \neq 0$  (system is not isolated = there is contact with the environment), then the momentum is NOT conserved.

$$P_{iS} + J = P_{fS}$$

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