

Práctico 7

Ejercicio 11. Norm ;

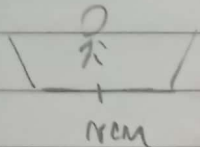
$$\frac{v_E^+}{A} = \frac{v_C^+}{C} + \frac{v_A^+}{A}$$

Estudiante = E = Partícula

Carro = C = 1700g

Agua = A = 1 litro

\*  $F_{ext} = 0 \Rightarrow v_{cm} = cte = \frac{v_C^+}{A}$



$$v_{cm} = m_E \cdot \frac{v_E^+}{C} + m_C \cdot \frac{v_C^+}{C} \Rightarrow 0$$

$$= \frac{80 \times 3 + 0}{80 + 20} = 2,4 \text{ m/s}$$

$$\frac{v_E^+}{A} = \frac{v_C^+}{C} + \frac{v_C^+}{A} = 3 + 2,4 = 5,4 \text{ m/s}$$

$$\frac{v_E^+}{A} = 5,4 \text{ m/s}$$

$$\frac{v_C^+}{A} = 2,4 \text{ m/s}$$

\*  $p_i = p_f \Rightarrow p_i = \text{reposito}$

$$p_f = m_E \cdot \frac{v_E^+}{C} + m_C \cdot \frac{v_C^+}{A}$$

$$- m_E \cdot \frac{v_E^+}{C} = m_C \cdot \frac{v_C^+}{A} \rightarrow - m_E \cdot \frac{v_E^+}{C} = m_C \cdot \frac{v_C^+}{A}$$

$$\frac{v_C^+}{A} = \frac{v_C^+}{A} \Rightarrow \frac{v_C^+}{A} = - \frac{(80 \cdot 3)}{20} = 12 \text{ m/s}$$

$$\frac{v_C^+}{A} = 12 \text{ m/s}$$

$$\frac{v_E^+}{A} = \frac{v_C^+}{C} + \frac{v_C^+}{A} \Rightarrow \frac{v_E^+}{A} = 3 + 12 = 15 \text{ m/s}$$

$$\frac{v_E^+}{A} = 15 \text{ m/s}$$