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IN GENERALE

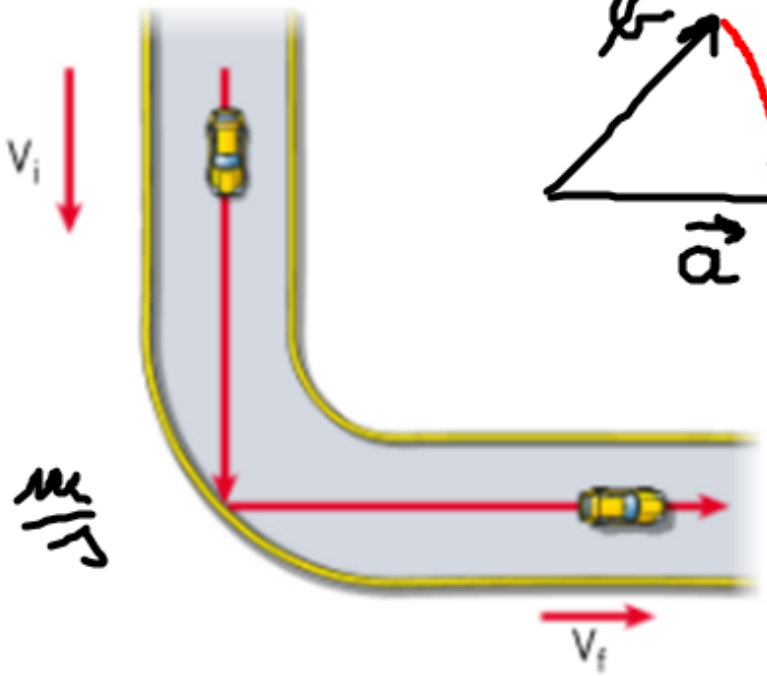
$m = 250\ g$

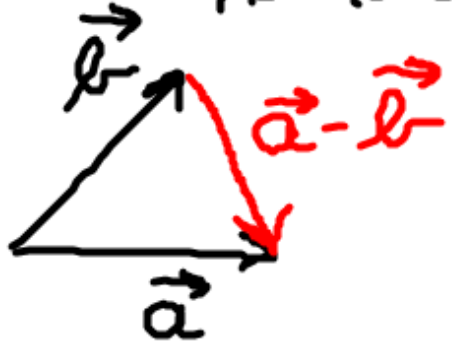
$v_i = 2{,}0\ m/s$

$v_f = \frac{1}{4} v_i = 0{,}50\ m/s$

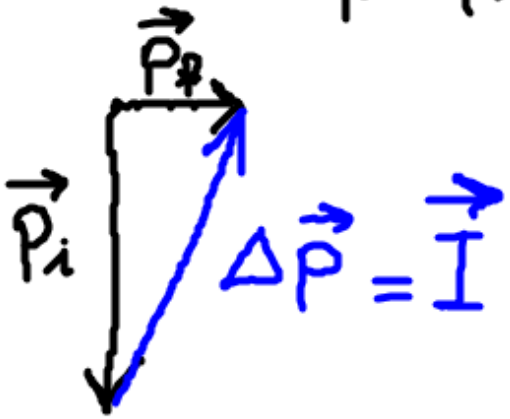
$\vec{p}_i = m\vec{v}_i$

$p_f = \frac{1}{4} p_i$





$\Delta\vec{p} = \vec{p}_f - \vec{p}_i$



$$\vec{I} = \Delta\vec{p} = \vec{p}_f - \vec{p}_i$$

$$\Delta p = \sqrt{p_f^2 + p_i^2} =$$

$$= \sqrt{(m v_f)^2 + (m v_i)^2} = m\sqrt{v_f^2 + v_i^2} =$$

$$= (0{,}250\ \text{kg}) \cdot \sqrt{(0{,}50)^2 + (2{,}0)^2}\ \frac{\text{m}}{\text{s}} =$$

$$= \boxed{0{,}52\ \text{kg} \cdot \frac{\text{m}}{\text{s}}}$$

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$v_0 = 0$

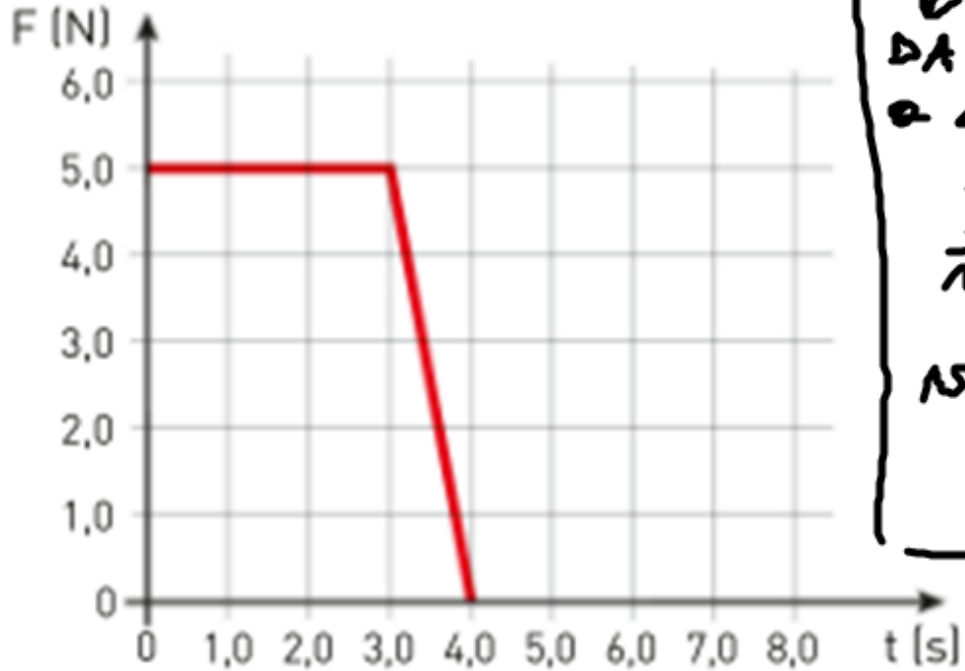
$m = 1{,}5\ kg$

$t = 3{,}0\ s$

$v_1 = ?$

$t = 4{,}0\ s$

$v_2 = ?$



nell'intervallo da 0 s a 3 s

$I = \Delta p = m v_1 - \underbrace{m v_0}_{0}$

$I = m v_1$

$F \cdot \Delta t = m v_1 \Rightarrow v_1 = \frac{F \cdot \Delta t}{m} = \frac{(5{,}0\ N)(3{,}0\ s)}{1{,}5\ kg} =$

$= \boxed{10\ m/s}$

$I = m v_2 - m v_1$

da 3,0 s a 4,0 s

$\frac{I}{m} = v_2 - v_1$

$v_2 = \frac{I}{m} + v_1 =$

$= \frac{2{,}5}{1{,}5} + 10 =$

$= \boxed{12\ m/s}$