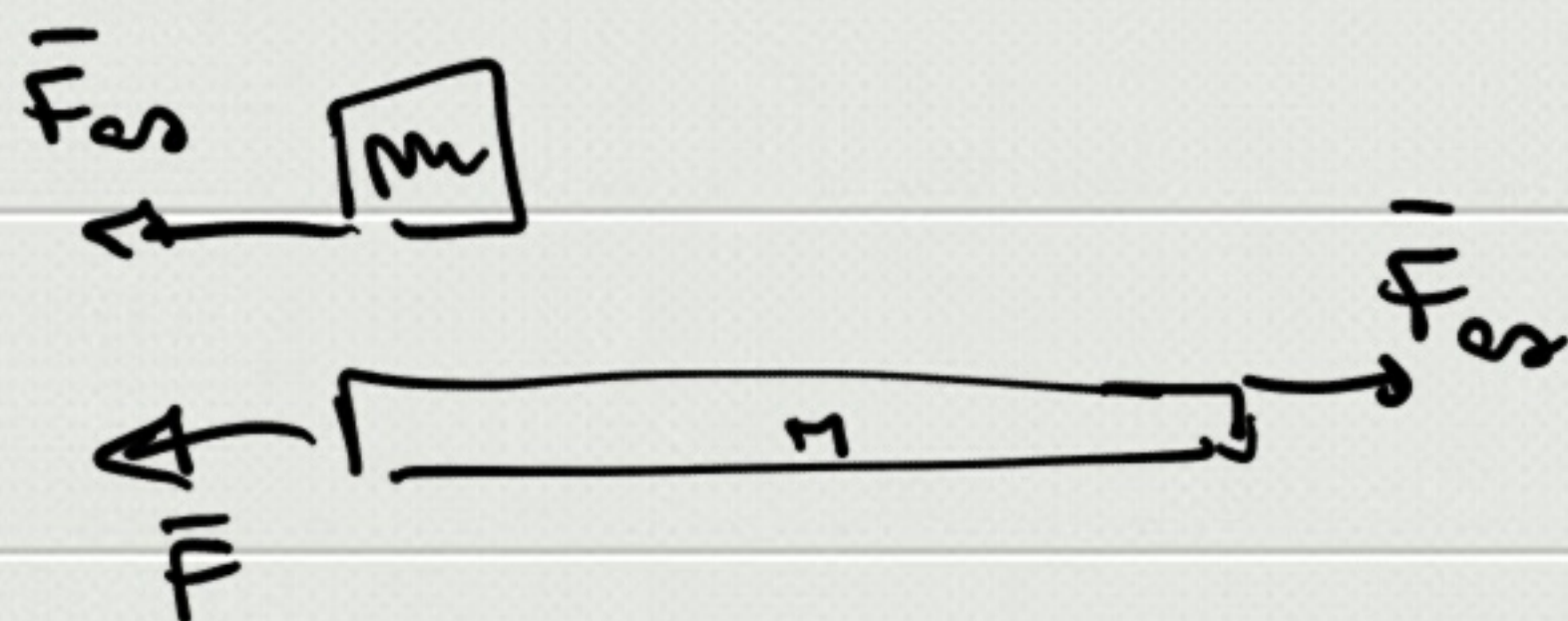


$$M = 3 \text{ kg}$$

$$m = 1 \text{ kg}$$

$$l = 3 \text{ m}$$



$$\mu_d = \mu_s = 0.1$$

$$F = 5 \text{ N}$$

$$\begin{cases} F_{es} = m a \\ F - F_{es} = M a \end{cases}$$

$$F = (m + M) a \Rightarrow a = \frac{F}{m + M}$$

$$\Rightarrow \cancel{\mu_d \frac{F}{m + M}} \leq \cancel{\mu_s m g}$$

$$1.25 \text{ m/s}^2 \quad 0.98 \text{ m/s}^2$$

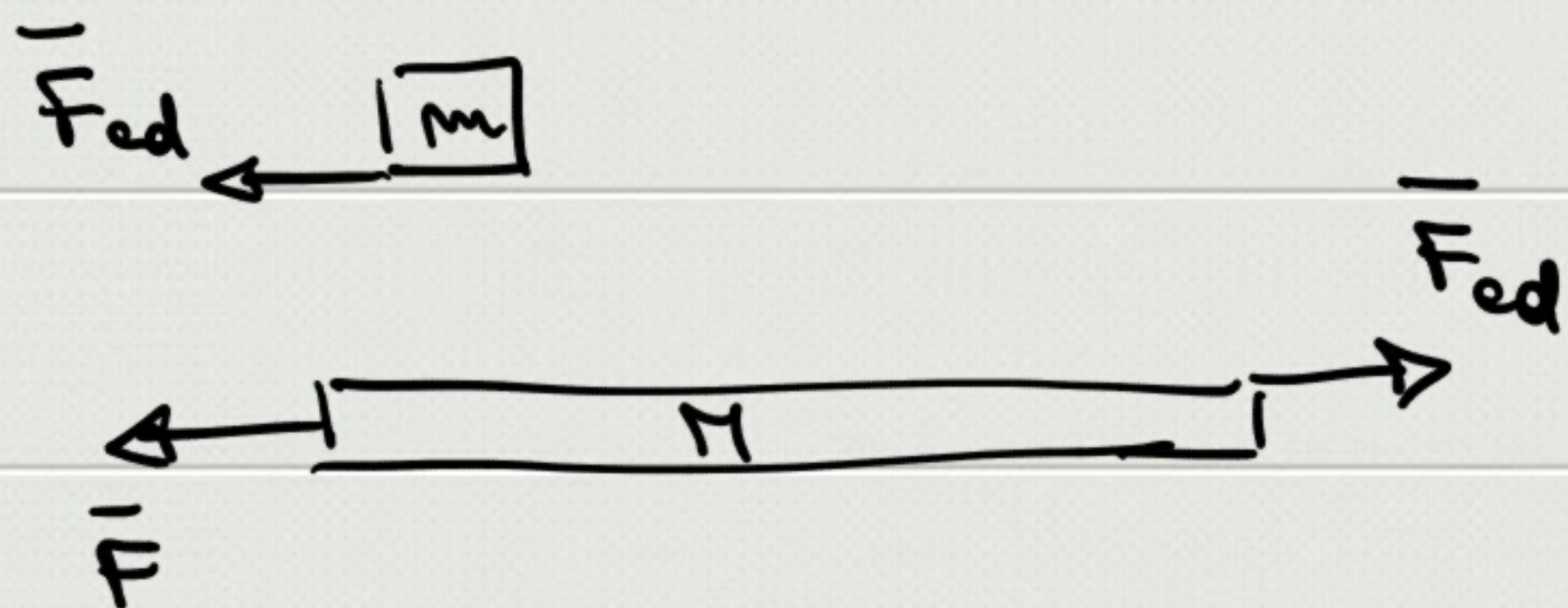
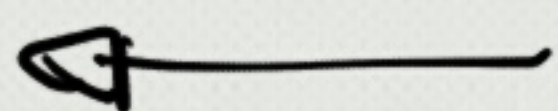
$t_{\text{caduta}} = ?$

$$\begin{cases} F - \mu_d m g = M a_M \\ \mu_d m g = m a_m \end{cases} \quad *$$

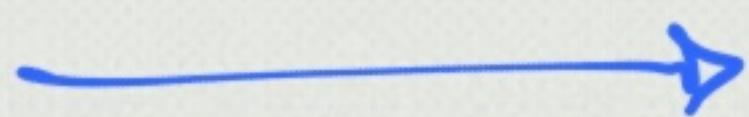
$$\begin{cases} -F + \mu_d m g = M a_M \\ -\mu_d m g = m a_m \end{cases} \quad *$$

$$l = \frac{1}{2} (a_m - a_M) t^2 \quad (a_m - a_M > 0) \quad *$$

$$l = \frac{1}{2} a_m t^2 \quad (a_m > 0) \quad \underline{\underline{\text{No}}}$$

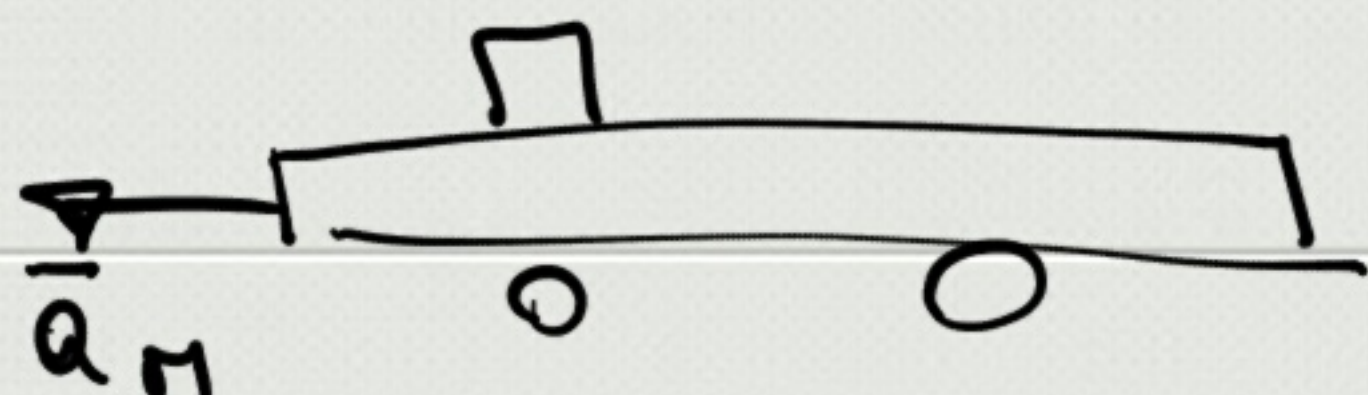


$$\begin{cases} \mu_d mg = \mu Q_M \\ F - \mu_d mg = M a_M \end{cases}$$



$$\begin{cases} -\mu_d mg = m a_m \\ -F + \mu_d mg = M a_M \end{cases}$$

$$(a_m = \mu_d g) \quad a_M = \frac{F - \mu_d mg}{M}$$



$$l = \frac{1}{2} a'_m t^2$$

$$\bar{a} = \bar{a}' + \bar{a}_0 + \dots$$

$$\Rightarrow a'_m = a_m - a_M = -0.35 \text{ m/s}^2$$

$$l = \frac{1}{2} (a_m - a_M) t^2$$

$$a'_m = a_m - a_M = 0.35 \text{ m/s}^2$$

$$t = \sqrt{\frac{2l}{|a_m - a_M|}} \cong 4.2 \text{ s}$$

