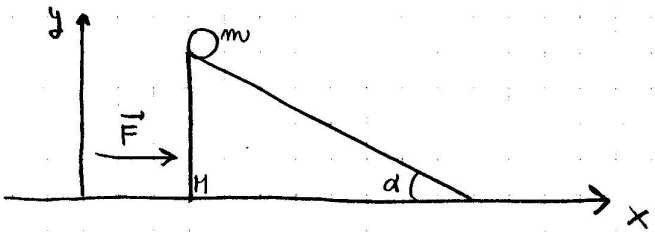
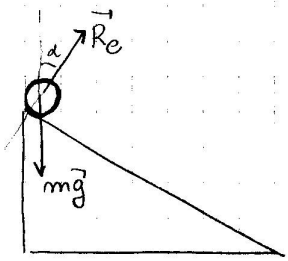
# Esercizio del corpo sul cuneo libero di muoversi




$\vec{F}$ t.c. il cuneo non si muova.

1) F ?

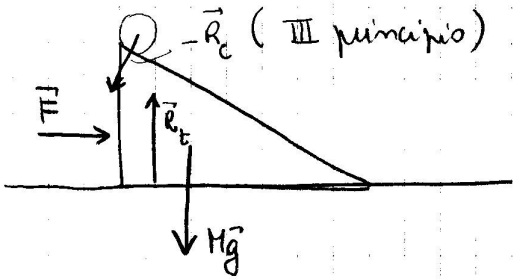



- Forze su m

$m\vec{g}$, $\vec{R}_e$

$$m\,\ddot{\vec{r}}_m = m\vec{g} + \vec{R}_e \qquad (1)$$

- Forze su M




$\vec{F}$, $-\vec{R}_c$, $M\vec{g}$, $\vec{R}_t$

$$M\,\ddot{\vec{r}}_M = M\vec{g} + \vec{R}_t + \vec{F} - \vec{R}_c \qquad (2)$$

Scompongo (1) e (2) su x e y:

$$\begin{cases} m\,\ddot{x}_m = R_e \sin\alpha \\ m\,\ddot{y}_m = -mg + R_e\cos\alpha \end{cases}$$

$$\begin{cases} M\,\ddot{x}_M = F - R_e\sin\alpha \\ M\,\ddot{y}_M = -Mg + R_t - R_e\cos\alpha \end{cases} \qquad (3)$$

Il cuneo non si muove $\Rightarrow$ $\ddot{x}_M = \ddot{y}_M = 0$

$$\Rightarrow \begin{cases} F = R_e\sin\alpha \\ R_t = Mg + R_e\cos\alpha \end{cases} \qquad (4)$$