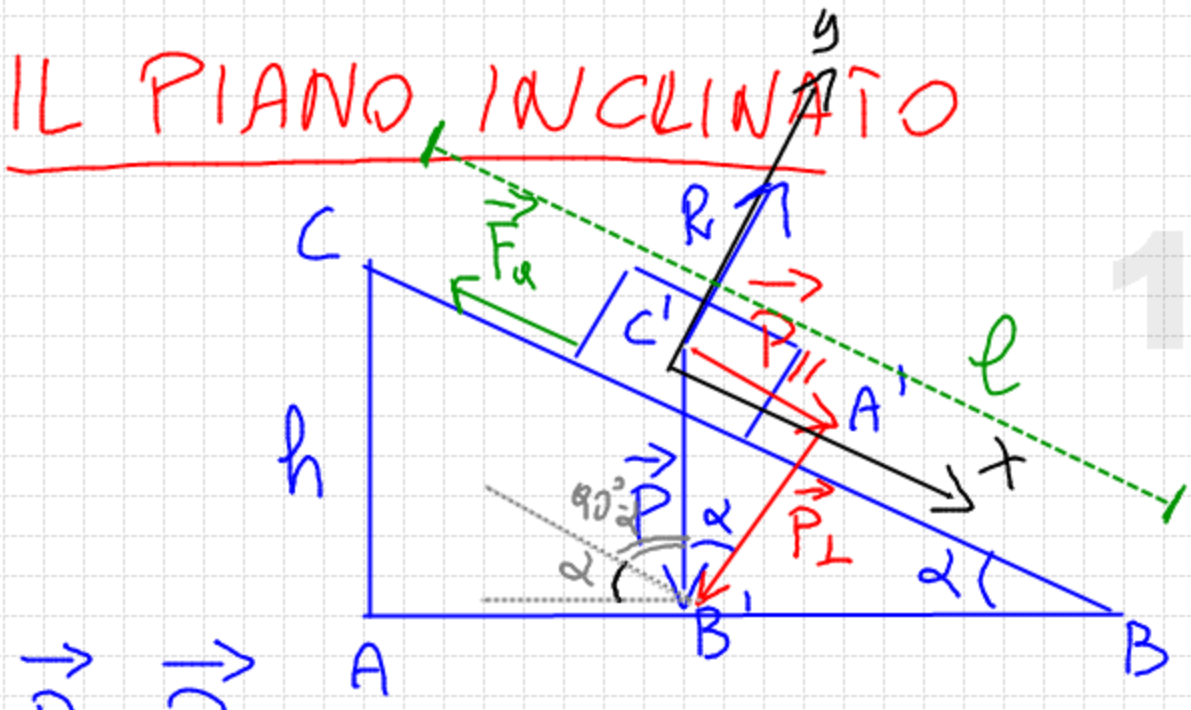
IL PIANO INCLINATO



$\vec{P} = m\vec{g}$

$\overline{AC} = h$

$\overline{BC} = \ell$

$h = \ell \operatorname{sen}\alpha$

$\vec{R} = \vec{P}_\perp$

$\vec{P}_{//} = \vec{F}_a$ equilibrio

Triangoli $\hat{ABC} \simeq \hat{A'B'C'}$ sono simili perché entrambi retti e con l'angolo α uguale quindi i lati sono in proporzione:

$$h : \ell = P_{//} : P$$

$$P_{//} = \frac{hP}{\ell} \qquad P_{//} = \frac{\ell \operatorname{sen}\alpha P}{\ell}$$

$$\boxed{P_{//} = P \operatorname{sen}\alpha}$$

$\overline{AB} = \ell \cos\alpha$ quindi: $P_\perp : P = \ell\cos\alpha : \ell$

$$P_\perp = \frac{P \cdot \ell \cdot \cos\alpha}{\ell}$$

$$\boxed{P_\perp = P\cos\alpha}$$

Se $F_a = \mu_a P_\perp$ allora

$F_a = P_{//} \rightarrow \mu_a P_\perp = P \operatorname{sen}\alpha \rightarrow$

$\mu_a P\cos\alpha = P \operatorname{sen}\alpha \rightarrow$

$$\boxed{\mu_a = \frac{\operatorname{sen}\alpha}{\cos\alpha}}$$