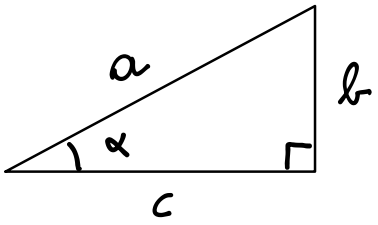
12/1/2018



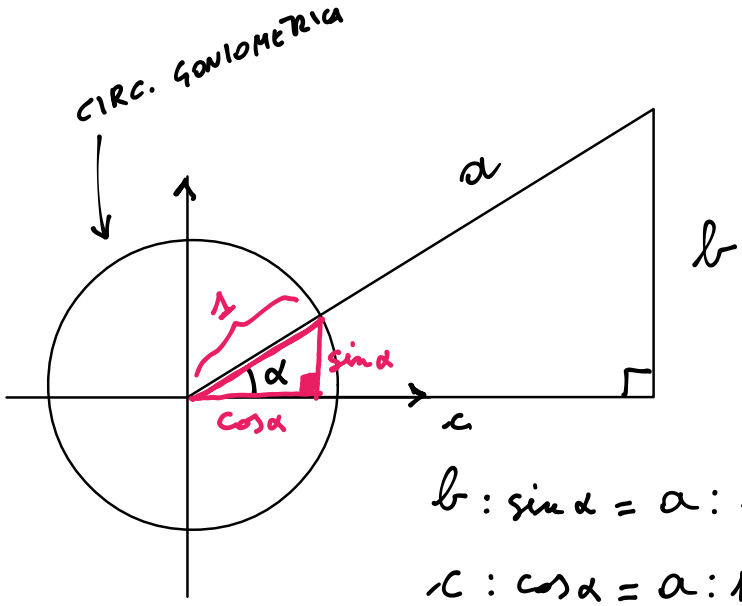
a = IPOTENUSA

b = CATETO OPPOSTO AD α

c = CATETO ADIACENTE AD α

$$c = a \cdot \cos\alpha$$

$$b = a \cdot \sin\alpha$$



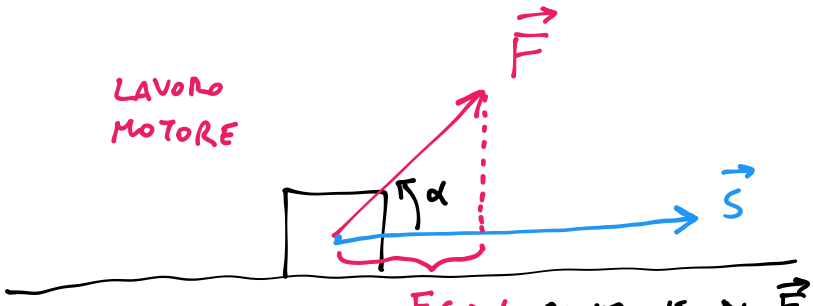
I DUE TRIANGOLI (NERO E ROSSO) SONO SIMILI, QUINDI HANNO I LATI IN PROPORZIONE

$b : \sin\alpha = a : 1 \implies b = a\sin\alpha$

$c : \cos\alpha = a : 1 \implies c = a\cos\alpha$

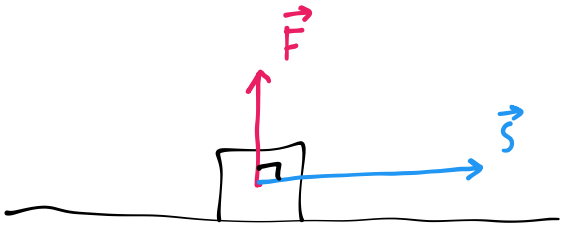
DEFINIZIONE GENERALE DI LAVORO

$\vec{F}$ = FORZA COSTANTE, IL CUI PUNTO DI APPLICAZIONE SUBISCE UNO SPOSTAMENTO $\vec{s}$

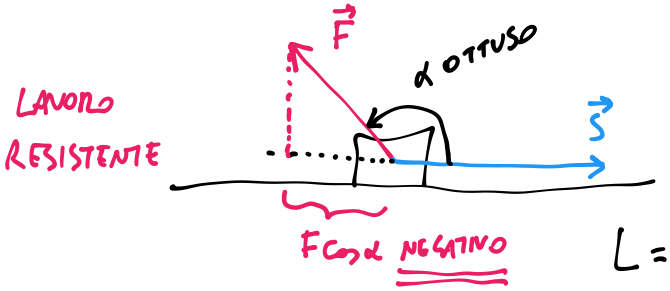


LAVORO DELLA FORZA $\vec{F}$

$$L = F \cdot s \cdot \cos\alpha \qquad (L = F_{//}\, s)$$



$$L = F s \underbrace{\cos 90^\circ}_{0} = 0$$

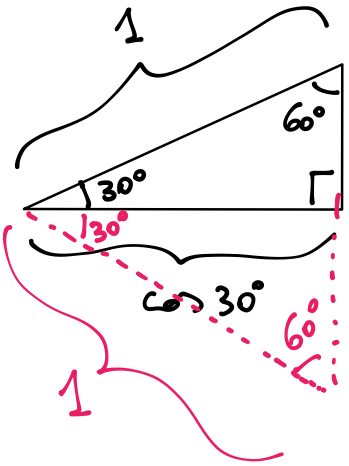


$\cos\alpha < 0$ se $90^\circ < \alpha < 180^\circ$

$$L = F s \underbrace{\cos\alpha}_{<0} < 0$$

ANGOLI PARTICOLARI

α°	α (RAD)	$\cos\alpha$	$\sin\alpha$
45°	$\pi/4$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$
30°	$\pi/6$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$
60°	$\pi/3$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$



$\sin 30° = \frac{1}{2}$

$\cos 30° = \sqrt{1^2 - \left(\frac{1}{2}\right)^2} = \frac{\sqrt{3}}{2}$

TH. DI PITAGORA