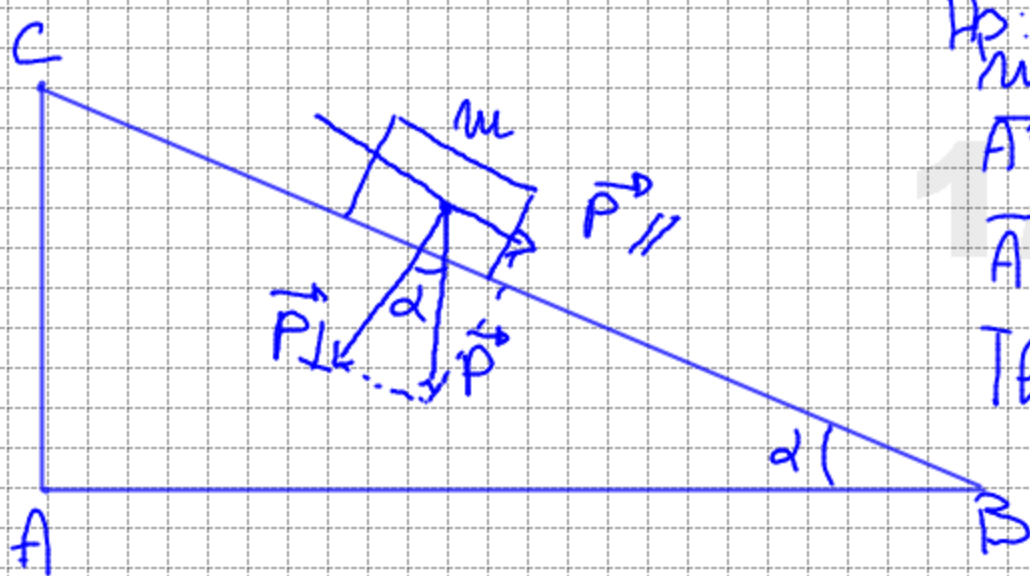


ESERCIZIO PIANO INCLINATO



$m = 3,00 \text{ kg}$
 $AB = 5,00 \text{ m}$
 $AC = 4,00 \text{ m}$
 TB:

$P = ?$
 $P_{\parallel} = ?$
 $P_{\perp} = ?$
 $F_e = \text{Forza equilibriante} = ?$

$$P = mg = 3,00 \text{ kg} \cdot 9,81 \text{ N/kg} = 29,43 \text{ N}$$

$$[N] = [1 \text{ kg}] \cdot [1 \text{ m/s}^2]$$

$$= 29,43 \text{ N}$$

$$AB : BC = P_{\perp} : P$$

$$BC = \sqrt{(5,00 \text{ m})^2 + (4,00 \text{ m})^2} = \sqrt{25 \text{ m}^2 + 16 \text{ m}^2} = \sqrt{41 \text{ m}^2} = 6,40 \text{ m}$$

$$5,00 \text{ m} : 6,40 \text{ m} = P_{\perp} : 29,43 \text{ N}$$

$$P_{\perp} = \frac{5,00 \text{ m} \cdot 29,43 \text{ N}}{6,40 \text{ m}} = \frac{147,15 \text{ N}}{6,40} = 22,99 \text{ N}$$

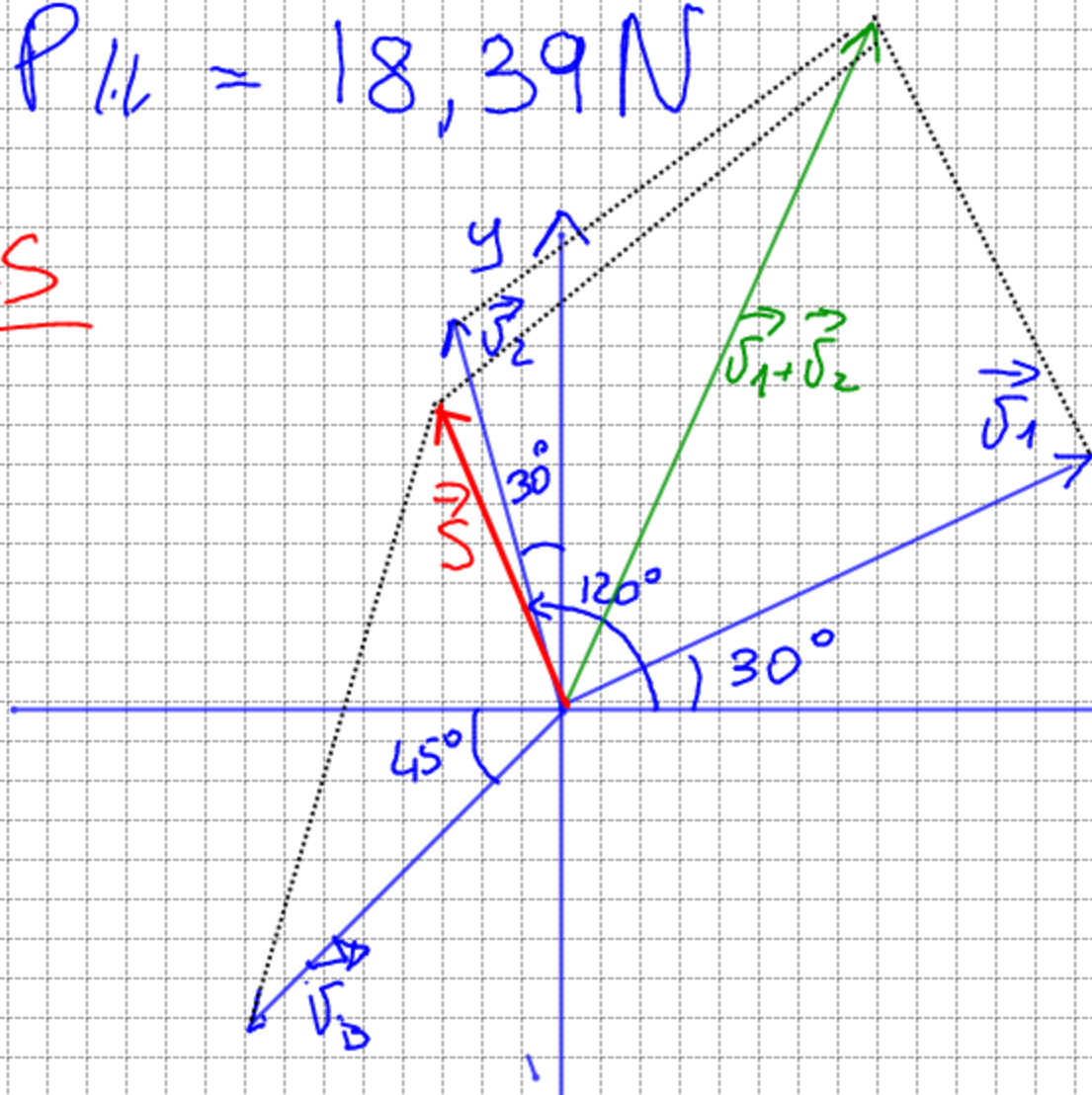
$$AC : BC = P_{\parallel} : P$$

$$4,00 \text{ m} : 6,40 \text{ m} = P_{\parallel} : 29,43 \text{ N}$$

$$P_{\parallel} = \frac{4,00 \text{ m} \cdot 29,43 \text{ N}}{6,40 \text{ m}} = \frac{117,72 \text{ N}}{6,40}$$

$$P_{\parallel} = 18,39 \text{ N}$$

ES



$v_{1x} = ?$ $v_{3x} = ?$
 $v_{1y} = ?$ $v_{3y} = ?$
 $v_{2x} = ?$ $\vec{S} = \vec{v}_1 + \vec{v}_2 + \vec{v}_3$
 $v_{2y} = ?$ $S_x = ?$
 $S_y = ?$
 $v_1 = 1 \text{ U}$
 $v_2 = 2 \text{ U}$
 $v_3 = 3 \text{ U}$

$$v_{1x} = \cos 30^\circ \cdot 1 \text{ U} = 0,87 \text{ U}$$

$$v_{1y} = \sin 30^\circ \cdot 1 \text{ U} = 0,5 \text{ U}$$

$$V_{2x} = V_2 \cos 120 = -1 \mu$$

$$V_{2y} = V_2 \sin 120 = 1,73 \mu$$

$$V_{3x} = V_3 \cos 225 = -2,12 \mu$$

$$V_{3y} = V_3 \sin 225 = -2,12 \mu$$

$$S_x = V_{1x} + V_{2x} + V_{3x} = 0,87\mu - 1\mu - 2,12\mu =$$

$$S_x = -2,25\mu$$

$$S_y = V_{1y} + V_{2y} + V_{3y} = 0,5\mu + 1,73\mu - 2,12\mu$$

$$S_y = 0,11\mu$$

$$\begin{aligned} S &= \sqrt{S_x^2 + S_y^2} = \sqrt{(-2,25\mu)^2 + (0,11\mu)^2} = \\ &= \sqrt{5,06\mu^2 + 0,01\mu^2} = \sqrt{5,07\mu^2} = 2,25\mu \end{aligned}$$