UDS

MI UNIVERSIDAD

RESISTENCIA DE MATERIALES DE CONSTRUCCION

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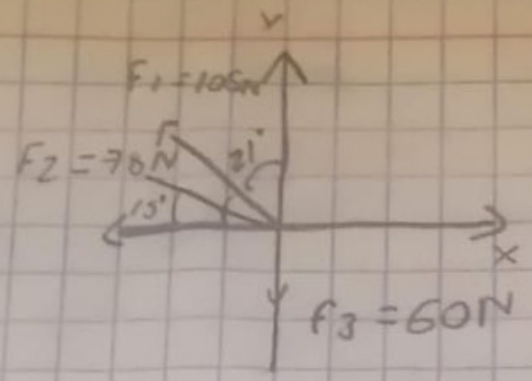
ARQUITECTURA

PARCIAL 1

CUATRIMESTRE 4

descripción

Gael Daniel Tinajero Alfuzar
22 sep 23



$F_1 = 105$

y sen $69(105)N = -98.0259N$

x cos $69(105)N = 37.6286N$

$F_2 =$

y sen $15°(78)N = -20.1878N$

x cos $15(78)N = 75.3422N$

$\Sigma fy + 98.0259N + 20.1878N - 60 = 58.2059$

$\Sigma fx \quad 37.6286 + 75.3422 = -112.9708$

$h = \sqrt{(-118.2137)^2 + (52.9708)^2}$

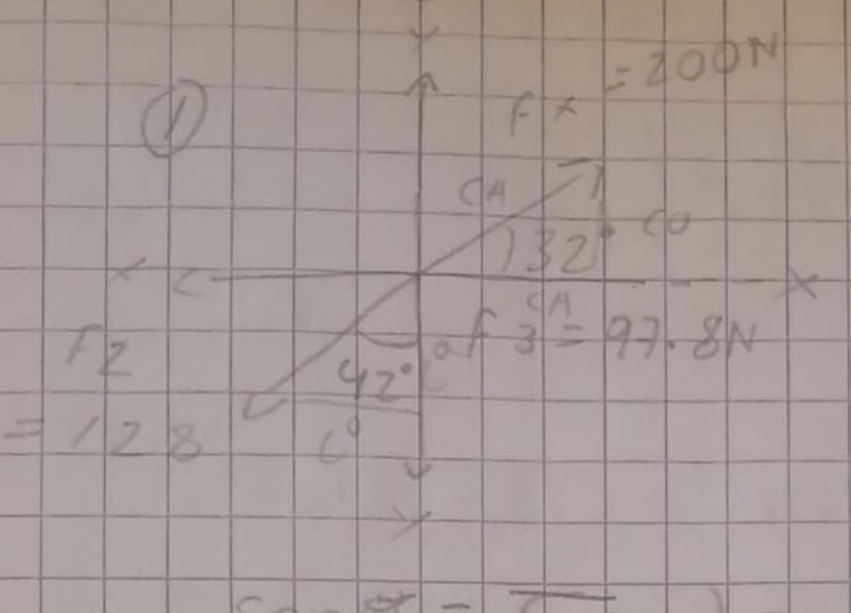
$= 129.5391m$

$\tan\theta = 58.2059 / -112.9708 = -0.51522$

$\tan^{-1} = -27.2588$

parcial 1 cuat 4 10 sep 23

ejercicios



$$\text{Sen}\,\theta = \frac{CO}{H} = \frac{(200)}{F1}$$

$fx = \text{Sen } 32^\circ (200) = 105.98$

$fx = \cos 32^\circ (200) = 169.609$

48/42

f_2

$f_x \ \text{Sen}(48^\circ (128) = 95.122$

$f_0 \ \cos 48^\circ (128) = -85.648$

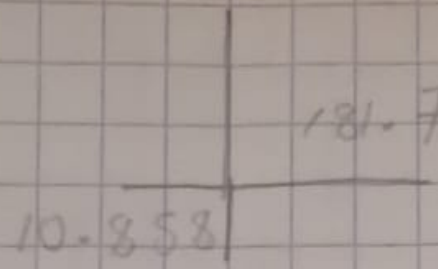
$f_x =$

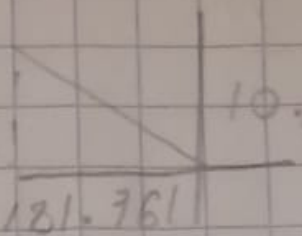
$fx = 169.609 - 85.648 \neq 97.8N$

$fx = 181.76$

$fx = 105.98 - 95.122 = 10.858$

$$c = \sqrt{a^2 + b^2}$$





$$c = \sqrt{(181.761)^2 + (10.858)^2}$$

$$c = \sqrt{33,037.061 + 117.896}$$

$$c = \sqrt{33,154.957}$$

$$c = 182.085$$

$$\text{Tan}\ \frac{CO}{CA} \rightarrow \theta\ \tan^{-1}\frac{CO}{CA} \qquad \frac{10.858}{181.761}$$

$$\theta = \text{Tan}^{-1}(0.059) \qquad \theta = 3.376$$

$$90 - 3.376 = 86.624$$