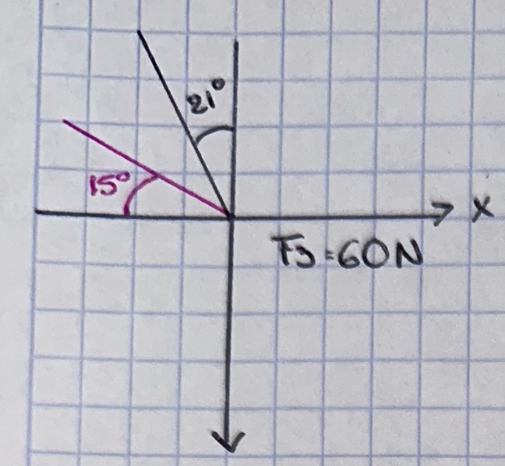
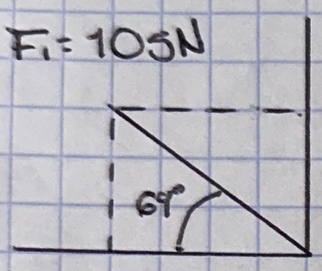
Angel Gabriel Granados Perez
arq. Pedro Alberto García López
Resistencia de materiales de construcción

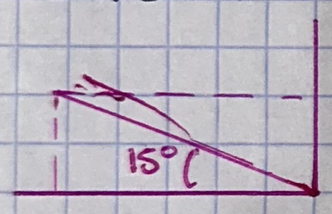




Sen 69° = F1y = Sen 69° (105N) = 98.025N/

Cos 69° = F1x = cos 69° (105N) = -37.628N/

F2=78N CA



Sen 15° = F1y = Sen 15° (78N) = 20.187N/

Cos 15° = F1x = cos 15° (78N = -75.342N/

F3 = F3y = -60N/

ΣFx = 37.628N + 75.342N = 112.97N/

ΣFy = 98.025N + 20.187N - 60N = 58.212/

$H = \sqrt{(-112.97N)^2 + (58.212)^2}$

$H = \sqrt{12762.2209 + 3388.6369}$

$H = \sqrt{16150.8578}$

H = 127.086N/

Tan∅ = CO/CA

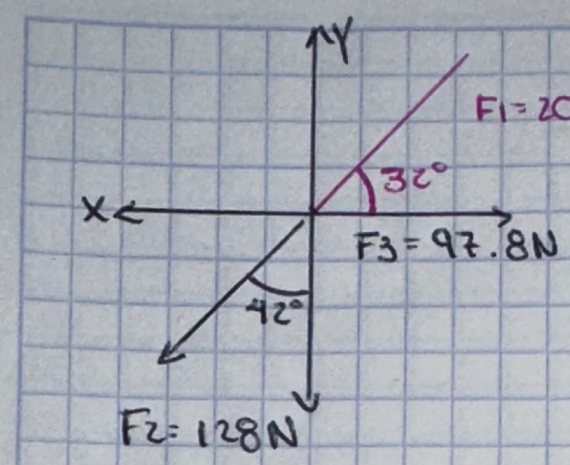
$\emptyset = \text{Tan}^{-1} \frac{58.212}{-112.97}$

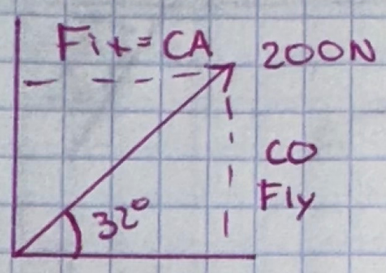
∅ = -0.515/

$\text{Tan}^{-1}(-0.515) = 27.248$

90 - 27.248 = 62.752/

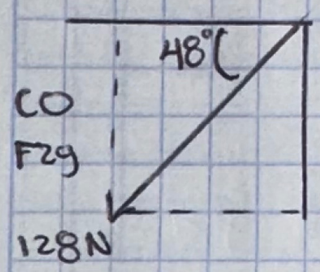
180 - 27.248 = 152.752/





$\text{Sen } 32° = \frac{Fiy}{200N} \therefore Fiy = \text{Sen } 32° (200N) = \underline{105.983N}$

$\text{Con } 32° = \frac{Fix}{200N} = Fix = \cos 32° (200N) = \underline{169.609N}$



$\text{Sen } 48° = \frac{F2y}{128N} \therefore F2y = \text{Sen } 48° (128N) = \underline{-95.122N}$

$\text{Cos } 48° = \frac{F2x}{128N} = F2x = \cos 48° (128N) = \underline{-85.648N}$

$F3 = F3N = \underline{97.8N}$

$\Sigma Fx = 169.609N - 85.648N + 97.8N = \underline{181.761}$

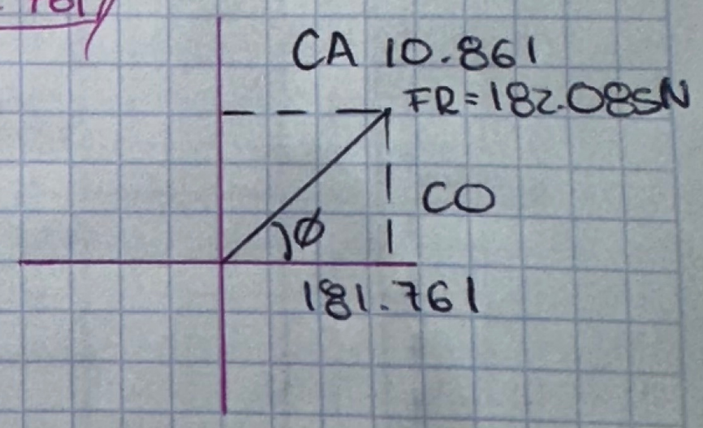
$Fy = 105.983N - 95.122N = \underline{10.861}$

$H = \sqrt{(181.761)^2 + (10.861)^2}$

$H) = \sqrt{33037.061 + 117.961}$

$H = \sqrt{33155.022}$

$H = \underline{182.086N}$



$\text{Tan } Ø = CO/CA$

$Ø = \underline{0.059}$

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

$Ø = \text{Tan}^{-1} CO/CA$

$\text{Tan}^{-1} \frac{10.861}{181.761}$

$90 - 3.376 = \underline{86.624}$

$360 - 3.376 = \underline{356.624}$