

# UDS

ISAAC GABRIEL AGUILAR CANO

EJERCICIOS

ARQUITECTO: PEDRO ALBERTO GARCIA  
LOPEZ

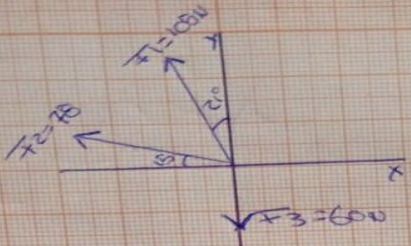
4TO CUATRIMESTRE

LECENCIATURA: ARQUITECTURA

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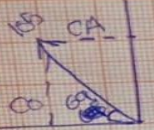
4TO CUATRIMESTRE





$$\text{Sen } 69^\circ = \frac{F_1 y}{100} = F_{1y} \rightarrow \text{sen } 69^\circ (100) = 98.0259$$

$$\text{Cos } 69^\circ = \frac{F_1 x}{100} = F_{1x} \rightarrow \text{cos } 69^\circ (100) = 37.6286$$



$$\text{Sen } 15^\circ = \frac{F_2 y}{78} = F_{2y} \rightarrow \text{sen } 15^\circ (78) = 20.1878$$

$$\text{Cos } 15^\circ = \frac{F_2 x}{78} = F_{2x} \rightarrow \text{cos } 15^\circ (78) = 75.3422$$

$$\Sigma F_y = 9.0259 + 20.1878 - 60 = 75.3422 - 60 = 15.2137$$

$$\Sigma F_x = 37.6286 + 75.3422 = 112.9708$$

$$h = \sqrt{(15.2137)^2 + (112.9708)^2} =$$

$$h = \sqrt{16161.23652} = 127.0875152$$

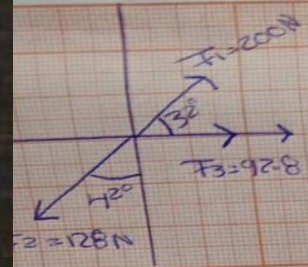
$$\tan \theta = 15.2137 / 112.9708$$

$$\tan \theta = 0.1347$$

$$\tan^{-1} = 27.2575$$

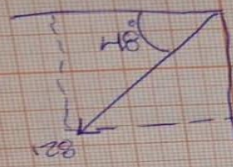
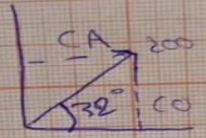
$$90^\circ - 27.2575 = 62.7425$$

Rayter



$$\text{Sen } 32^\circ = \frac{F_1 y}{200} = F_{1y} \rightarrow \text{Sen } 32^\circ (200) = 105.9838$$

$$\text{Cos } 36^\circ = \frac{F_1 x}{200} = F_{1x} \rightarrow \text{Cos } 36^\circ (200) = 169.6096$$

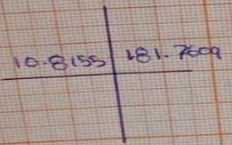


$$\text{Sen } 48^\circ = \frac{F_2 y}{128} = F_{2y} \rightarrow \text{Sen } 48^\circ (128) = 95.1225$$

$$\text{Cos } 48^\circ = \frac{F_2 x}{128} = F_{2x} \rightarrow \text{Cos } 48^\circ (128) = 85.6487$$

$$\Sigma F_y = 105.9838 + 95.1225 = 201.1063$$

$$\Sigma F_x = 169.6096 + 85.6487 + 97.8 = 353.0583$$



$$h = \sqrt{(10.8155)^2 + (181.7609)^2} =$$

$$h = 182.0823$$

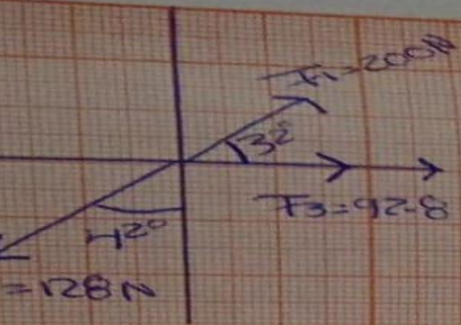
$$\tan \theta = 10.8155 / 181.7609$$

$$\tan \theta = 0.0595$$

$$\tan^{-1} = 3.405084$$

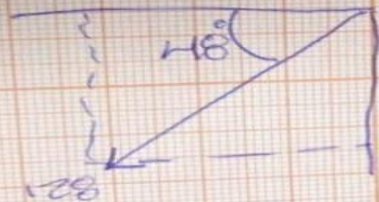
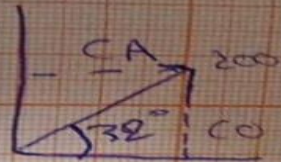
Rayter





$$\text{Sen } 32^\circ = \frac{F_{1y}}{200N} = F_y \rightarrow \text{Sen } 32^\circ (200) = 105.9838$$

$$\text{Cos } 32^\circ = \frac{F_{1x}}{200N} = F_x \rightarrow \text{Cos } 32^\circ (200) = 169.6096$$



$$\text{Sen } 48^\circ = \frac{F_{2y}}{128} = F_{2y} \rightarrow \text{Sen } 48^\circ (128) = 95.1225$$

$$\text{Cos } 48^\circ = \frac{F_{2x}}{128} = F_{2x} \rightarrow \text{Cos } 48^\circ (128) = 85.6487$$

$$\overline{F_y} = 105.9838 + 95.1225 = 201.1063$$

$$\overline{F_x} = 169.6096 - 85.6487 + 97.8 = 181.7609$$

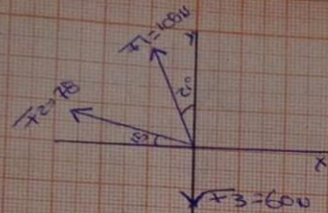
$$h = \sqrt{(201.1063)^2 + (181.7609)^2} = 272.0823$$

$$\tan \theta = 201.1063 / 181.7609$$

$$\tan \theta = 1.1063$$

$$\tan^{-1} = 48.05084$$

10.8155	181.7609
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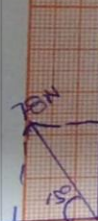
$$\text{Sen } 69^\circ = \frac{F_{1y}}{105} = F_y \rightarrow \text{Sen } 69^\circ (105) = 98.0259$$

$$\text{Cos } 69^\circ = \frac{F_{1x}}{105} = F_x \rightarrow \text{Cos } 69^\circ (105) = 37.6288$$



$$\text{Sen } 15^\circ = \frac{F_{2y}}{78} = F_{2y} \rightarrow \text{Sen } 15^\circ (78) = 20.1878$$

$$\text{Cos } 15^\circ = \frac{F_{2x}}{78} = F_{2x} \rightarrow \text{Cos } 15^\circ (78) = 75.3422$$



$$\overline{F_y} = 98.0259 + 20.1878 - 600 = -481.7863$$

$$\overline{F_x} = 37.6288 + 75.3422 = 112.9710$$

$$h = \sqrt{(-481.7863)^2 + (112.9710)^2} = 494.2362$$

$$\tan \theta = 481.7863 / 112.9710$$

$$\tan \theta = 4.2646$$

$$\tan^{-1} = 76.7425$$

$$90^\circ - 76.7425 = 13.2575$$