



UNIVERSIDAD DEL SURESTE

GEOMETRIA ANALITICA

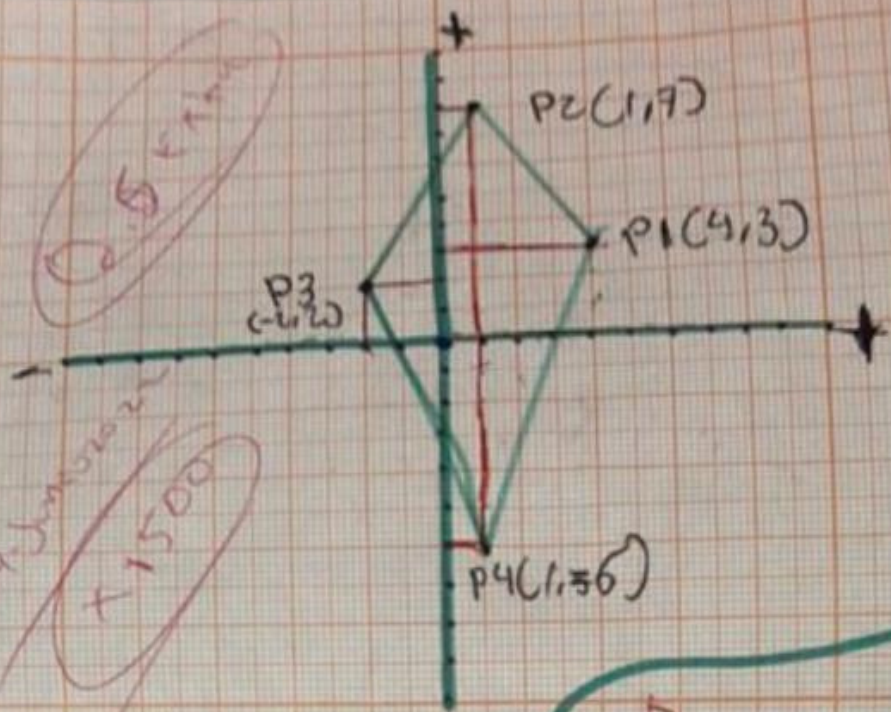
Nombre del alumno: Renato Villalobos Robledo

Nombre del Profesor: Ing. Jorge Enrique Albores

Grado: segundo de Bachillerato

Actividad I

x y
 $P_1(x_1, y_1)$
 $P_2(x_2, y_2)$
 $P_3(x_3, y_3)$
 $P_4(x_4, y_4)$



Distancia 1
 P_1, P_2

$$\overrightarrow{P_1 P_2} = \sqrt{(1-4)^2 + (7-3)^2}$$

$$\overrightarrow{P_1 P_2} = \sqrt{(-3)^2 + (4)^2}$$

$$\overrightarrow{P_1 P_2} = \sqrt{9 + 16}$$

$$\overrightarrow{P_1 P_2} = \sqrt{25}$$

$$\overrightarrow{P_1 P_2} = 5$$

Formula 0

$$F = \sqrt{(x^2 - x_1)^2 + (y^2 - y_1)^2}$$

Distancia 2

P_2, P_3

$$\overrightarrow{P_2 P_3} = \sqrt{(-2-1)^2 + (2-7)^2}$$

$$\overrightarrow{P_2 P_3} = \sqrt{(-3)^2 + (-5)^2}$$

$$\overrightarrow{P_2 P_3} = \sqrt{9 + 25}$$

$$\overrightarrow{P_2 P_3} = \sqrt{34}$$

$$\overrightarrow{P_2 P_3} = 5.83$$

Total

24.85

Distancia 3

$\vec{P_3 P_4}$

$$P_3 \begin{pmatrix} x_1 \\ y_1 \end{pmatrix} = \begin{pmatrix} -2 \\ 2 \end{pmatrix}$$

$$P_4 \begin{pmatrix} x_2 \\ y_2 \end{pmatrix} = \begin{pmatrix} 2 \\ -6 \end{pmatrix}$$

$$\vec{P_3 P_4} = \sqrt{(2 - (-2))^2 + (-6 - 2)^2}$$

$$\vec{P_3 P_4} = \sqrt{(3)^2 + (-8)^2}$$

$$\vec{P_3 P_4} = \sqrt{9 + 64}$$

$$\vec{P_3 P_4} = \sqrt{73}$$

$$\vec{P_3 P_4} = 8.54$$

Pendiente 1

$P_1 P_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7 - 3}{1 - 5} = \frac{4}{-4} = -1$$

$$\alpha = \arctan m = \arctan(-1) = 45^\circ 00'$$

Pendiente 2

P_2, P_3

$$P_4 \begin{pmatrix} x_1 \\ y_1 \end{pmatrix} = \begin{pmatrix} 1 \\ -6 \end{pmatrix} \quad m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7 - (-2)}{-2 - 1} = \frac{9}{-3} = -3$$

$$P_1 \begin{pmatrix} x_2 \\ y_2 \end{pmatrix} = \begin{pmatrix} 4 \\ 3 \end{pmatrix} \quad \alpha = \arctan m = \arctan\left(\frac{9}{3}\right) = 59^\circ 2' 10.48$$

Distancia 4

$$\vec{P_4 P_1} = \sqrt{(4 - 1)^2 + (3 - (-6))^2}$$

$$\vec{P_4 P_1} = \sqrt{(3)^2 + (9)^2}$$

$$\vec{P_4 P_1} = \sqrt{9 + 81}$$

$$\vec{P_4 P_1} = \sqrt{90}$$

$$\vec{P_4 P_1} = 9.48$$

Pendiente 3

$P_3 P_4$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-6 - 2}{1 - (-2)} = \frac{-8}{3} = -\frac{8}{3}$$

$$\alpha = \arctan m = \arctan\left(\frac{8}{3}\right) = 64^\circ 26' 38.25$$

Pendiente 4

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 6}{4 - 1} = \frac{-3}{3} = -\frac{3}{3}$$

$P_4 P_1$

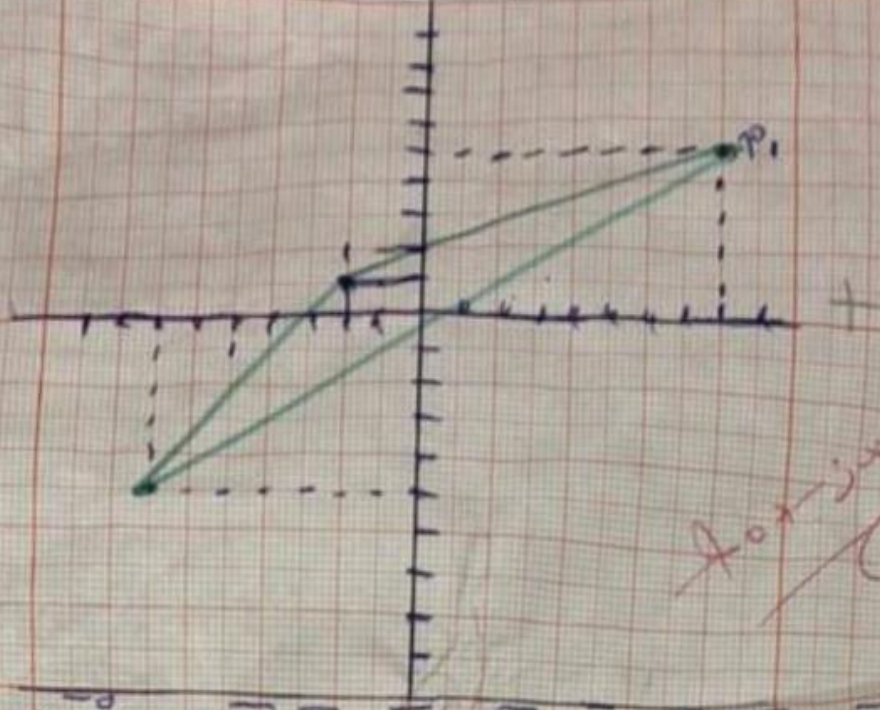
$$\alpha = \arctan m = \arctan\left(\frac{3}{3}\right) = 45^\circ 00'$$

$$\alpha = \arctan m = 45^\circ 00'$$

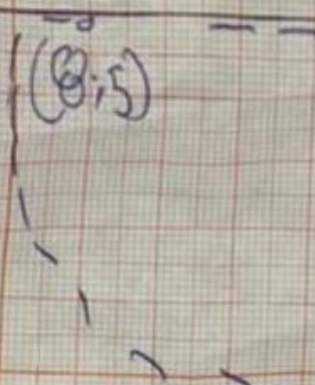
$$P_1(8, 5)$$

$$P_2(-1, 2)$$

$$P_3(-5, -7)$$



~~10x - Junio 2022~~
~~+ 1500~~
~~+ 0.5 extra~~



$$P_1, P_2 = \sqrt{(-1-8)^2 + (2-5)^2}$$

$$P_1, P_2 = \sqrt{(-9)^2 + (-3)^2}$$

$$P_1, P_2 = \sqrt{81 + 9}$$

$$P_1, P_2 = \sqrt{90}$$

$$P_1, P_2 = 9.48$$

$$P_2, P_3 = \sqrt{(-5-1)^2 + (-7-2)^2}$$

$$P_2, P_3 = \sqrt{(-4)^2 + (-9)^2}$$

$$P_2, P_3 = \sqrt{16 + 81}$$

$$P_2, P_3 = \sqrt{97}$$

$$P_2, P_3 = 9.84$$

$$P_3, P_1 = \sqrt{(8-(-5))^2 + (5-(-7))^2}$$

$$P_3, P_1 = \sqrt{(13)^2 + (12)^2}$$

$$P_3, P_1 = \sqrt{169 + 144}$$

$$P_3, P_1 = \sqrt{313}$$

$$P_3, P_1 = 17.69$$

$$+ \begin{array}{r} 9.48 \\ 9.84 \\ 17.69 \\ \hline 37.01 \end{array}$$