

**Nombre del alumno: Renato
Villalobos Robledo**

Nombre del profesor: Jorge Enrique



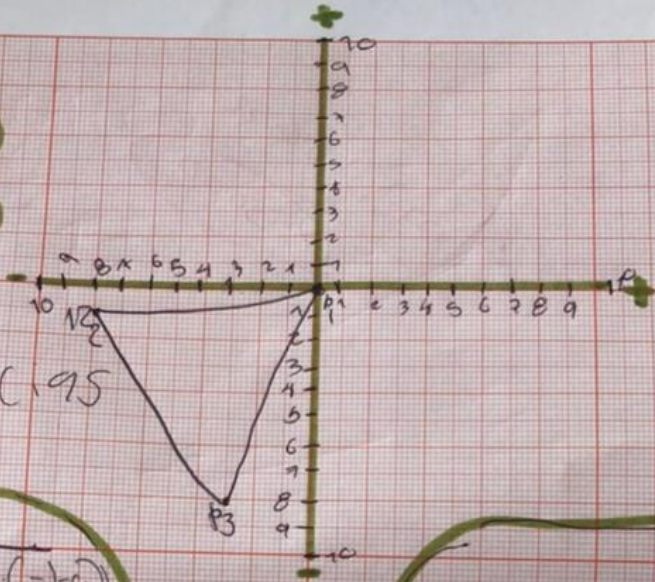
Geometría analítica

Mi Universidad

Nombre de la actividad: cálculos

Segundo de bachillerato

$P1(0,0)$
 $P2(8,-1)$
 $P3(-2,-9)$



Distancia 9.5

$P1P2$

$$P1P2 = \sqrt{(8-0)^2 + (-1-0)^2}$$

$$P1P2 = \sqrt{64 + 1}$$

$$P1P2 = \sqrt{65}$$

$$P1P2 = 8.06$$

$$P3P1 = \sqrt{(-2-0)^2 + (-9-0)^2}$$

$$P3P1 = \sqrt{4 + 81}$$

$$P3P1 = \sqrt{85}$$

$$P3P1 = 9.22$$

$$P2P3 = \sqrt{(-2-8)^2 + (-9-(-1))^2}$$

$$P2P3 = \sqrt{100 + 64}$$

$$P2P3 = \sqrt{164}$$

$$P2P3 = 12.81$$

Perimetro

23.82

Pendientes

$$P1P2 = \frac{8-0}{1-0} = 8$$

$$G = \arctan 8 - \arctan 0 = 7^{\circ} 4' 30'' 06.$$

$$P2P3 = \frac{-7-1}{-2-8} = \frac{8}{-6}$$

$$G = \arctan 8/6 - \arctan 0/6 = 53^{\circ} 7' 48'' 37$$

$$P3P12 = \frac{0-7}{0-(-1)} = \frac{7}{1}$$

$$G = \arctan 7 - \arctan 0 = \frac{7}{1} = 74^{\circ} 3' 16'' 57$$

Punto Medio

$$P1P2 (P_{MX}) = \frac{0+8}{2} = 8/2 = 4$$

$$P_{MY} = \frac{-0+0}{2} = \frac{0}{2} = 0.5 \quad P1P2 (-4, 0.5)$$

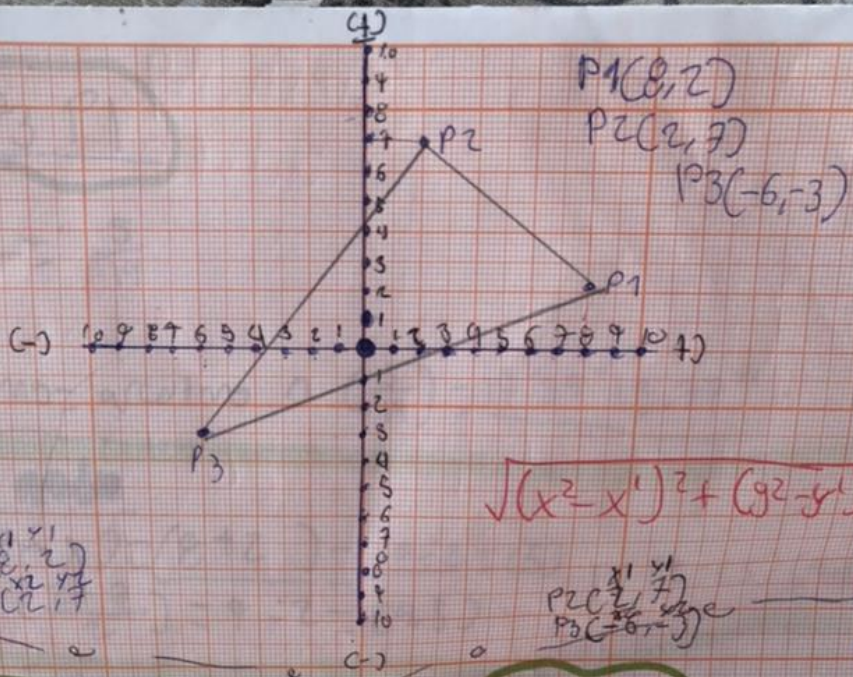
$$P2P3 (P_{MX}) = \frac{-8+(-2)}{2} = \frac{-10}{2} = -5$$

$$P_{MY} = \frac{-1+(-7)}{2} = \frac{-8}{2} = -4$$

$$P2P3 (-5, -4)$$

$$P_{3PI}(P_{NY}) = (-2 \pm 0) = \frac{-2}{2} = -1$$

$$P_{NY} = \left(\frac{-7 \pm 0}{2} \right) = \frac{-7}{2} = -3.5 \quad P_{3PI} = -1, -3.5$$



$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

a) $P_1(x_1, y_1)$
 $P_2(x_2, y_2)$
 $P_3(x_3, y_3)$

b) $P_2(x_1, y_1)$
 $P_3(x_2, y_2)$
 $P_1(x_3, y_3)$

P1, P2

$$P_1, P_2 \sqrt{(2-8)^2 + (7-2)^2}$$

$$P_1, P_2 \sqrt{(-6)^2 + (5)^2}$$

$$P_1, P_2 \sqrt{(36) + (25)}$$

$$P_1, P_2 \sqrt{61}$$

$P_1, P_2 = 7.81$

P2, P3

$$P_2, P_3 \sqrt{(6-2)^2 + (-3-7)^2}$$

$$P_2, P_3 \sqrt{(4)^2 + (-10)^2}$$

$$P_2, P_3 \sqrt{(16) + (100)}$$

$$P_2, P_3 \sqrt{116}$$

$$P_2, P_3 = 10.77$$

Perimetro
 35.47

Pendientes

P1, P2 $\frac{-7}{-2-8} = \frac{-7}{-10} = \frac{7}{10}$
 $\theta = \arctan(\frac{7}{10}) = \arctan(0.7) = 35.0^\circ$

P2, P3

$\theta = \arctan(\frac{10}{4}) = \arctan(2.5) = 68.2^\circ$

$$\frac{-3-7}{-6-2} = \frac{-10}{-8} = \frac{5}{4}$$

P3, P1 $\sqrt{(8-(-6))^2 + (2-(-3))^2}$

$$P_3, P_1 \sqrt{(14)^2 + (5)^2}$$

$$P_3, P_1 \sqrt{196 + 25}$$

$$P_3, P_1 \sqrt{221}$$

$P_3, P_1 = 14.86$

Total Perimetro
57.01

Medias

$$P_n = P_1 P_2 = \left(\frac{8+0}{2} \right) = \frac{16}{2} = 8$$

$$P_n = P_1 P_2 = (5, 6)$$

$$P_n = P_1 P_2 = \frac{1+11}{2} = \frac{12}{2} = 6$$

$$P_n = P_2 P_3 = \left(\frac{-1-8}{-2} \right) = \frac{9}{2} = 4.5$$

$$P_n = P_2 P_3 = \left(\frac{-10+1}{2} \right) = \frac{-9}{2} = 4.5$$

$$P_n = P_2 P_3 = (4.5, 4.5)$$

$$P_n = P_3 P_4 = \left(\frac{-11+0-1}{2} \right) = \frac{-12}{2} = 6$$

$$P_n = P_3 P_4 = \left(\frac{-1+6+0}{2} \right) = \frac{5}{2} = 2.5$$

$$P_n = P_3 P_4 = (6, 5)$$

$$P_n = P_4 P_1 = \left(\frac{2+(-10)}{2} \right) = \frac{-8}{2} = 4$$

$$P_n = (4.5, 5)$$

$$P_n = P_4 P_1 = \left(\frac{11+(-1)}{2} \right) = \frac{10}{2} = 5$$

$P_3 P_1$

$$\frac{z - (-3)}{8(5)} = \frac{5}{14}$$

$$\text{Giración} = \arctan \left(\frac{5}{14} \right) = 19^\circ 39' 13.77''$$

Punto medio

$$P_1 P_2 (P_m X) = \frac{(8+2)}{2} = \frac{10}{2} = (5) \quad P_1 P_2 = (5) (4.5)$$
$$P_m Y = \frac{(2+7)}{2} = \frac{9}{2} = (4.5)$$

$$P_2 P_3 (P_m X) = \frac{(2+6)}{2} = \frac{8}{2} = (4)$$

$$P_m Y = \frac{(7+3)}{2} = \frac{10}{2} = (5) \quad P_1 P_2 = (-2) (2)$$

$$P_1 P_2 (P_m X) = \frac{-6+8}{2} = \frac{2}{2} = 1$$

$$P_m Y = \frac{-3+2}{2} = \frac{-1}{2} = (-0.5) \quad P_1 P_2 = (1) (-1) (5)$$

Renato Villalobos Robledo