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Nombre del trabajo: Retroalimentación

Materia: Geometría Analítica

PASIÓN POR EDUCAR

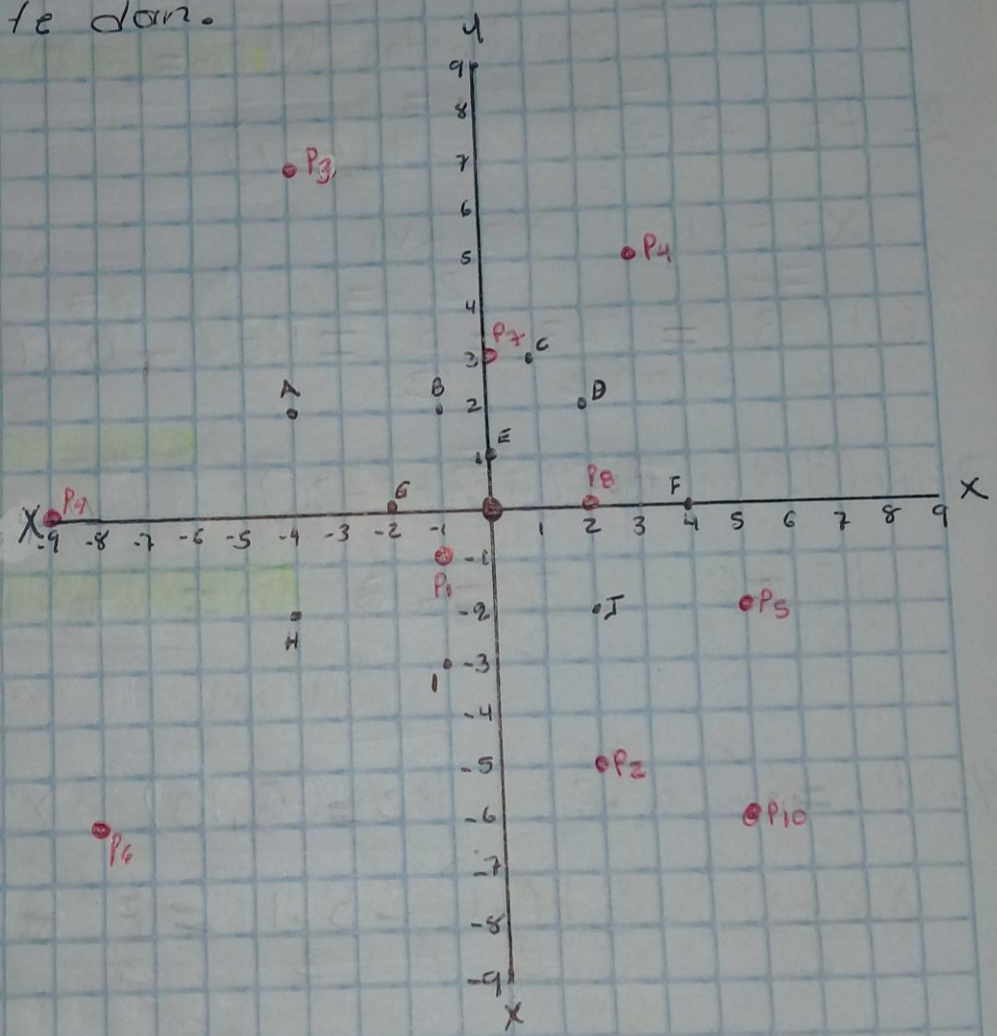
Grado: 3er semestre

Grupo: "A"

Escribe la coordenada de los puntos que localizan en el siguiente plano cartesiano

y ubica los puntos de las coordenadas que se te dan.

- 1: A = (-4, 2)
- 2: B = (-1, 2)
- 3: C = (1, 3)
- 4: D = (2, 2)
- 5: E = (0, 1)
- 6: F = (4, 0)
- 7: G = (-2, 0)
- 8: H = (-4, -2)
- 9: I = (1, -3)
- 10: J = (2, -2)



- 11: P₁ (-1, -1)
- 12: P₂ (2, -5)
- 13: P₃ (-4, 7)
- 14: P₄ (3, 5)
- 15: P₅ (5, -2)
- 16: P₆ (-8, -6)
- 17: P₇ (0, 3)
- 18: P₈ (2, 0)
- 19: P₉ (-9, 0)
- 20: P₁₀ (5, -6)

Cálcula el punto medio de un segmento

$$\frac{x_2 + x_1}{2} \quad P_1 = (-4, 6) \quad P_2 (2, 0) \quad \frac{y_2 + y_1}{2}$$

$$1: \frac{2 + (-4)}{2} = \frac{2 - 4}{2} = -\frac{2}{2} = -1 \quad \frac{0 + 6}{2} = \frac{6}{2} = 3$$

Coordenadas del Pm = $(-1, 3)$

$$2: P_2 (-3, -2) \quad P_1 (6, -9)$$

$$\frac{x_2 + x_1}{2} \quad \frac{y_2 + y_1}{2}$$

$$\frac{6 + (-3)}{2} = \frac{6 - 3}{2} = \frac{3}{2} = 1.5 \quad \frac{-9 + (-2)}{2} = \frac{-9 - 2}{2} = \frac{-11}{2} = -5.5$$

Coord Pm = $(1.5, -5.5)$

$$3: P_1 (8, 8) \quad P_2 (12, -26)$$

$$\frac{12}{2} = 6 \quad \frac{-26}{2} = -13 \quad Pm = (6, -13)$$

$$4: P_1 = (-1, -6) \quad P_2 = (8, 10) \quad \frac{y_2 + y_1}{2}$$

$$\frac{x_2 + x_1}{2} \quad \frac{8 + (-1)}{2} = \frac{8 - 1}{2} = \frac{7}{2} = 3.5$$

$$\frac{10 + (-6)}{2} = \frac{10 - 6}{2} = \frac{4}{2} = 2 \quad \text{Coord Pm} = (3.5, 2)$$

$$5: P_1 = (-2, 4) \quad P_2 (10, 4) \quad \frac{x_2 + x_1}{2} \quad \frac{y_2 + y_1}{2}$$

$$\frac{10 + (-2)}{2} = \frac{10 - 2}{2} = \frac{8}{2} = 4$$

$$\frac{4 + 4}{2} = \frac{8}{2} = 4 \quad Pm = (4, 4)$$

Encuentra la Pendiente y ángulo de Inclinación

1: pendiente $m = \frac{y_2 - y_1}{x_2 - x_1}$ $P_1 = (0, 0)$ $P_2 = (6, 6)$

$$m = \frac{6 - 0}{6 - 0} = \frac{6}{6} = 1$$

$$m = 1 = 1$$

$$\phi = \tan^{-1} 1 = 45^\circ$$

2: $m = \frac{y_2 - y_1}{x_2 - x_1}$ $P_1 = (-3, 4)$ $P_2 = (1, 4)$

$$\frac{4 - 4}{-3 - 1} = \frac{-2}{-2} = 1 \quad \phi = \frac{1}{-2} = -0.5 = 26.56^\circ$$

$$m = -2$$

$$\phi = 26.56^\circ$$

3: $P_1 = (-1, 0)$ $P_2 = (3, -8)$

$$m = \frac{-8 - 0}{3 - (-1)} = \frac{-8}{3 + 1} = \frac{-8}{4} = -2 \quad \phi = \frac{1}{-2} = -0.5$$

$$m = -2 \quad \phi = 26.56^\circ$$

4: $P_1 = (-2, -4)$ $P_2 = (0, 7)$

$$m = \frac{7 - (-4)}{0 - (-2)} = \frac{7 + 4}{2} = \frac{11}{2} = 5.5 \quad \phi = \frac{1}{2} = 79.69^\circ$$

$$m = 5.5$$

5: $P_1 = (-5, 0)$ $P_2 = (0, 2)$

$$\frac{2 - 0}{0 - (-5)} = \frac{2}{5} = 0.4 \quad \phi = \tan^{-1} 0.4 = 21.80^\circ$$

$$m = 0.4$$

$$6: m = \frac{y_2 - y_1}{x_2 - x_1} \quad P_1 = (x_1, y_1) = (1, 5) \quad P_2 = (x_2, y_2) = (6, 0)$$

$$m = \frac{0 - 5}{6 - 1} = \frac{-5}{5} = -1$$

$$m = -1$$

$$\phi = \tan^{-1} = 45^\circ$$

$$7: m = \frac{y_2 - y_1}{x_2 - x_1} \quad P_1 = (x_1, y_1) = (-1, -1) \quad P_2 = (x_2, y_2) = (3, 2)$$

$$\frac{2 - (-1)}{3 - (-1)} = \frac{2 + 1}{3 + 1} = \frac{3}{4} = 0.75$$

$$m = 0.75$$

$$\phi = \tan^{-1} = 36.86^\circ$$

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Calcular la distancia de los sig. puntos.

$$1^{\circ} \quad d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad P_1(x_1, y_1) \quad P_2(x_2, y_2)$$

$$d = \sqrt{(-1 - 2)^2 + (0 - 5)^2}$$

$$d = \sqrt{(-3)^2 + (-5)^2}$$

$$d = \sqrt{9 + 25}$$

$$d = \sqrt{34}$$

$$d = 5.8$$

$$2^{\circ} \quad P_1(x_1, y_1) \quad P_2(x_2, y_2)$$

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

$$d = \sqrt{(-1 - (-3))^2 + (2 - 10)^2}$$

$$d = \sqrt{(-1 + 3)^2 + (2 - 10)^2}$$

$$d = \sqrt{(2)^2 + (-8)^2}$$

$$d = \sqrt{4 + 64}$$

$$d = \sqrt{68}$$

$$d = 8.24$$

$$3: d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad P_1 = \begin{pmatrix} x_1 \\ y_1 \end{pmatrix} = \begin{pmatrix} 6 \\ -12 \end{pmatrix} \quad P_2 = \begin{pmatrix} x_2 \\ y_2 \end{pmatrix} = \begin{pmatrix} 9 \\ 2 \end{pmatrix}$$

$$d = \sqrt{(9 - 6)^2 + (2 - (-12))^2}$$

$$d = \sqrt{(9 - 6)^2 + (2 + 12)^2}$$

$$d = \sqrt{(3)^2 + (14)^2}$$

$$d = \sqrt{9 + 196}$$

$$d = 20,5 \quad d = 14,31$$

$$4: d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad P_1 = \begin{pmatrix} x_1 \\ y_1 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \end{pmatrix} \quad P_2 = \begin{pmatrix} x_2 \\ y_2 \end{pmatrix} = \begin{pmatrix} 100 \\ 0 \end{pmatrix}$$

$$d = \sqrt{10000}$$

$$d = 100$$

$$5: d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad P_1 = \begin{pmatrix} x_1 \\ y_1 \end{pmatrix} = \begin{pmatrix} -2 \\ -15 \end{pmatrix} \quad P_2 = \begin{pmatrix} x_2 \\ y_2 \end{pmatrix} = \begin{pmatrix} -6 \\ -13 \end{pmatrix}$$

$$d = \sqrt{(-6 - (-2))^2 + (-13 - (-15))^2}$$

$$d = \sqrt{(-6 + 2)^2 + (-13 + 15)^2}$$

$$d = \sqrt{(-4)^2 + (2)^2}$$

$$d = \sqrt{16 + 4}$$

$$d = \sqrt{20} \quad d = 4,47$$

-50 5

Ecuación pendiente ordenada al origen

$$y = mx + b$$

$$1. y = -3x + (-7) = -3x - 7 = -20x$$

$$2. y = -11x + (-14) = -11x - 14 = 25x$$

$$3. y = -2.5x + 8 = 5.50x$$

$$4. y = -13x + 5 = 7x$$

$$5. y = -8x + 4 = -4x$$

$$6. y = 9x + 15 = 24x$$

$$7. y = -1.6x + 13 = 11.4x$$

$$8. y = 8x + -2 = 6x$$

$$9. y = 11x + 0 = 11x$$

$$10. y = 13x + (-6) = 13x - 6 = 7x$$

$$11. y = -4x + (-4) = -4x - 4 = -8x$$

$$12. y = -12x + (-10) = 12x - 10 = 2x$$

$$13. y = 11x + 4 = 13x$$

$$14. y = -14x + (-9) = -14x - 9 = 23x$$

$$15. y = -12x + (-14) = -12x - 14 = 26x$$

$$16. y = 6.9x + 15 = 21.9x$$

$$17: y = -1.6x + (-6) = -1.6x - 6 = 7.6x$$

$$18: y = -13x + (-7) = -13x - 7 = 20x$$

$$19: y = 2x + 9 = 11x$$

$$20: y = 2x + 14 = 16x$$