# Problemário

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Nombre del tema : Área , perímetro y semiperimetro

Parcial 2

Nombre de la Materia : Geometría Analítica

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Nombre de la Licenciatura : Técnico en enfermería General

Semestre 3

**1.** Vertices son: A(-8,3) B(-1,5) C(7,-1) y D(-2,-6)

$$A = \frac{1}{2} \begin{vmatrix} -8, & 3 \\ -1, & 5 \\ 7, & 1 \\ -2, & -6 \\ -8, & 3 \end{vmatrix} \frac{1}{2} \frac{(-40+1-42-6)-(-3+8+2+35-3)}{2}$$

$\frac{1}{2}(-87)-(82)$

$\frac{1}{2}(-169)$

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

$D_{AB} = \sqrt{81+64}$

$D_{AB} = \sqrt{145} = 12.04$ } 6.02

$D_{DA} = \sqrt{36+81}$ } 5.9

$D_{DA} = \sqrt{117} = 10.81$

$D_{BC} = \sqrt{64+36}$

$D_{BC} = \sqrt{100} = 10$ } = 5

$D_{CD} = \sqrt{81+25}$

$D_{CD} = \sqrt{106} = 10.29$ } 5.19

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**2.** Vertices son: A(3,5) B(-4,6) C(-8,2)

$x = \frac{x_1 + x_2}{1+1}$  $y = \frac{y_1 + y_2}{1+1}$

$x = \frac{-1+(-4)}{1+1}$  $y = \frac{5+1(+6)}{2}$ } = -2.5, -0.5 PM_{AB}

$x = \frac{-5}{2} = -2.5$  $y = \frac{-1}{2} = -0.5$

$x = \frac{-4+(-8)}{1+1}$  $y = \frac{-6+1(-2)}{2}$ } = -6, -4 PM_{BC}

$x = \frac{-12}{2} = -6$  $y = \frac{-8}{2} = -4$

$x = \frac{-8+1(-1)}{1+1}$  $y = \frac{-2+1(5)}{1+1}$ } = -1.5, 1.5 PM_{CA}

$x = \frac{-9}{2} = -4.5$  $y = \frac{3}{2} = 1.5$

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**6.** A(0,0) B(1,2) C(3,-4)

$$A = \frac{1}{2} \begin{vmatrix} 0,0 \\ 3,4 \\ 1,2 \\ 0,0 \end{vmatrix} = \frac{1}{2} \frac{(-4)-(6)}{(-10)}$$

$S = a + b + c$

$S = 6.32 + 5 + 2.2$

$S = 6.76$

$A = \sqrt{6.76(6.76-6.32)(6.76-5)(6.76-2.2)}$

$A = \sqrt{6.76(0.44)(1.76)(4.56)}$

$A = \sqrt{23.8}$  $A = 4.88$

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**3.** Vertices son: A(3,1) B(1,-3) C(0,y)

$$A = 3u^2 \quad \frac{1}{2} \begin{vmatrix} 3,1 \\ 1,-3 \\ 0,1 \\ 3,1 \end{vmatrix} = \frac{1}{2}(-9+1)-(3y+1)$$

$3 = \frac{1}{2}(-9+y-3y-1) = \frac{1}{2}(-10-2y)$

$3 = \frac{1}{2}(-10-2y)$

$6 = -10-2y$

$6+10 = -2y$

$\frac{16}{-2} = y$  $y = -8$

4ᵃ A (0,0) B (1,2) y C (3,-4)

$A = \frac{1}{2} \begin{vmatrix} 0,0 \\ 1,2 \\ 3,-4 \\ 0,0 \end{vmatrix} = \frac{1}{2}(0-4-0)-(0+6+0)$

$= \frac{1}{2}(-4)-(6) = 10$

DnB = √(2+4) = 2.44    s = a+b+c / 2
DBC = √(9+36) = 6.32   s = 2.44+6.32+5 / 2 = 6.88
DcA = √(9+16) = 5

A = √ s(s-a)(s-b)(s-c)

A = √ 6.88 (6.88-2.44)(6.88-6.32)(6.88-5)

A = √ 6.88 (4.44)(0.56)(1.88)

32.160     5.67



5. A(-3,3) B(4,2) C(3,7) D(-1,6)

$A = \frac{1}{2} \begin{vmatrix} -3,3 \\ 4,2 \\ 3,7 \\ -1,6 \end{vmatrix} = \frac{1}{2}(6+28+36)-(-7+14+12)$

$\frac{1}{2}(38)-(40)$

$\frac{1}{2}(98)$

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

DAB = √(1+1)
DAB = √2    1.4   } 0.7 SP

DBC = √(121+81)
DBC = √202 = 14.2 } 7.1 SP

DcD = √(36+169)
DcD = √205 = 14.3 } 7.15 SP

DDA = √(4+81)
DDA = √85 = 9.2  } 4.6 SP