

تاريخ (مقرر)

"ناتج"

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نزهة الداني

$$A(-2, k), B(4, m)$$

$$m_{AB} = \frac{\Delta y}{\Delta x} = \frac{m-k}{4} = -\frac{1}{2} \quad m-k = -2$$

$$AB = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{(4+2)^2 + (m-k)^2} = \sqrt{36+9} = \sqrt{45}$$

$$A(-4, 4) \quad B(2, 1) \quad C(x, y) \quad D(-1-x, y+3)$$

$$x_A + x_C = x_B + x_D$$

$$-4 + x = 2 - 1 - x \quad 2x = 3 \quad x = \frac{3}{2}$$

$$m_{AB} \times m_{BC} = -1 \rightarrow m_{BC} = \frac{4}{3} = \frac{1-y}{\frac{3}{2}-\frac{3}{2}} \rightarrow y = -1$$

$$AB = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{9+16} = 5$$

$$BC = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{\frac{9}{4} + 2} = \frac{5}{2}$$

$$AB \cdot BC = 2(5 + \frac{5}{2}) = 15$$

$$2mx + (m^2 - 1)y = 2 \quad m = \tan \theta$$

$$m = \tan \theta = \sqrt{2}$$

$$\frac{m - 2m}{m^2 - 1} = \sqrt{2} \rightarrow -2m = \sqrt{2}m^2 - \sqrt{2} \rightarrow \sqrt{2}m^2 + 2m - \sqrt{2} = 0$$

$$m^{-2} + 2m' - 2 = 0 \rightarrow m' = 1 \rightarrow m = \frac{1}{m'} = 1$$

$$A(1, 9) \quad B(2, 3) \quad C(1, 9)$$

$$m_{BC} = \frac{\Delta y}{\Delta x} = \frac{9-3}{1-2} = -6 \quad y = ax + b \quad a = -6 \quad 3 = 2(-6) + b \rightarrow b = -9 \quad y = -6x - 9$$

$$AH = \frac{|9 - 2 + 3|}{\sqrt{36}} = \frac{10}{6} = \frac{5}{3}$$

$$AB = y + 2x = 5$$

$$AC = 8y - 2x = 17$$

$$BC = 2y - 7x = -19$$

$$B(2, 3)$$

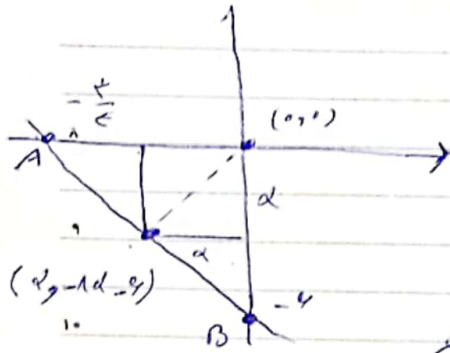
$$\begin{cases} y + 2x = 5 \\ 2y - 7x = -19 \end{cases} \Rightarrow$$

$$-2y - 4x = -10$$

$$2y - 7x = -19$$

$$-11x = -29 \rightarrow x = \frac{29}{11}, y = 1$$

$$BH = \frac{|9 - 9 - 17|}{\sqrt{36}} = \frac{17}{6}$$



$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - 1}{1 - 0} = -1$$

$$y = -x + b \quad b = 1 \rightarrow y = -x + 1$$

$$x = -1x - 1 \quad x = -1x - 1 \rightarrow x = -\frac{1}{2} \quad y = -\frac{1}{2}$$

$$r = \sqrt{Ax^2 + Ay^2} = \sqrt{(0 + \frac{1}{2})^2 + (0 + \frac{1}{2})^2} = \frac{1}{2}\sqrt{2}$$

$$y = -x + 1$$

$$m = \frac{1}{-1} = -1 \rightarrow x^2 = 1 \quad x = \pm 1$$

$$y = -x + 1$$

$$x = 1 \rightarrow y = 1 + 1 = 2 \quad y = 1 + 1 = 2 \rightarrow x = 1$$

$$x = -1 \rightarrow y = -(-1) + 1 = 2 \quad y = -(-1) + 1 = 2 \rightarrow x = -1$$

$$\frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{|0 - 1|}{\sqrt{1 + 1}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$r = \sqrt{Ax^2 + Ay^2} = \sqrt{(0 + \frac{1}{2})^2 + (0 + \frac{1}{2})^2} = \frac{1}{2}\sqrt{2}$$

$$y = \frac{1}{2}x - \frac{1}{2} \quad m_{AC} = -\frac{1}{2} \rightarrow y = -\frac{1}{2}(x - 1) = y = -\frac{1}{2}x + \frac{1}{2}$$

$$y = -\frac{1}{2}x + \frac{1}{2} \quad y = \frac{1}{2}x - \frac{1}{2} \rightarrow x = \frac{1}{2} \quad y = \frac{1}{2}$$

نقطه تقاطع (1/2, 1/2) درون مثلث ABC است. $AC = \sqrt{(1/2)^2 + (1/2)^2} = \frac{1}{2}\sqrt{2}$ $BC = \sqrt{(1/2)^2 + (1/2)^2} = \frac{1}{2}\sqrt{2}$

$$S = \frac{AB \times BC}{2} = \frac{1 \times \frac{1}{2}\sqrt{2}}{2} = \frac{1}{4}\sqrt{2}$$

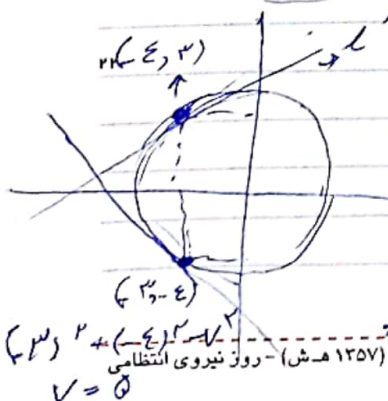
$$S = \frac{AB \times BC}{2} = \frac{1 \times \frac{1}{2}\sqrt{2}}{2} = \frac{1}{4}\sqrt{2}$$

$$m_{AB} = \frac{a - b}{-1/2 + 1/2} = \sqrt{2} \rightarrow a - b = \frac{\sqrt{2}}{2}$$

$$AD = \sqrt{Ax^2 + Ay^2} = \sqrt{\frac{1}{2} + \frac{1}{2}} = \frac{1}{2}$$

$$S = (\frac{1}{2})^2 = \frac{1}{4}$$

$$S = \frac{(x_1 - x_2)^2}{2} = \frac{1}{2} \rightarrow x_1 - x_2 = \frac{1}{\sqrt{2}} \rightarrow x_1 = \frac{1}{\sqrt{2}} + x_2$$



$$m = \frac{\Delta y}{\Delta x} = \frac{0 + 1}{0 + 1} = 1 \quad m \times m_l = -1 \quad m_l = -\frac{1}{1} = -1$$

$$m \times m_l = -1 \quad m_l = -\frac{1}{1} = -1$$

$$y + 1 = -\frac{1}{1}(x + 1) \rightarrow y = -x - 1$$

$$(-\frac{1}{2}y)^2 + y^2 = 1 \rightarrow y^2 = 1 \quad y = 1 \text{ و } y = -1$$

$$y - 1 = \frac{1}{1}(x + 1) \rightarrow y = x + 1$$

$$-\frac{1}{2}x - \frac{1}{2} = \frac{1}{2}x + \frac{1}{2} \rightarrow x = -1$$

$$x = -1 \rightarrow y = -(-1) - 1 = 0$$

$$xy = (-1)(-1) = 1$$