نام و نام خانوادگی .هستی باری مهماری......... پاسخنامه تشریحی تکلیف شماره ۱۱... کلاس ....

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$S = AB^2 = (x_B - x_A)^2 + (y_B - y_A)^2 \rightarrow 6^2 + (m-k)^2 = 36 + (m-k)^2$

$m = \frac{\Delta y}{\Delta x} = \frac{m-k}{6}$ $\quad \frac{m-k}{6} = -\frac{1}{2} \rightarrow m-k = -3$ $\quad S = 36 + (-3)^2$

$S = 45$

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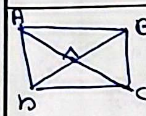

$M_{AC} = \left(\frac{-1+x}{2}, \frac{4+y}{2}\right)$ $\quad M_{BD} = \left(\frac{2-x}{2}, \frac{y+4}{2}\right) \longrightarrow \frac{-1+x}{2} = \frac{2-x}{2} \rightarrow x = \frac{3}{2}$, $4+y = y+4$

شیب $m_{AB} = \frac{1-4}{3-(-1)} = \frac{-3}{4}$ $\quad m_{BC} = \frac{y-1}{x-3} = \frac{y-1}{\frac{3}{2}-3} = \frac{y-1}{-\frac{3}{2}}$ عمودند $\rightarrow m_{AB} \times m_{BC} = -1$

$\left(-\frac{3}{4}\right)\left(\frac{y-1}{-\frac{3}{2}}\right) = -1 \rightarrow \frac{-3(y-1)}{4 \times \left(-\frac{3}{2}\right)} = -1 \rightarrow \frac{y-1}{2} = -1 \rightarrow y = -1$ طول $AB = \sqrt{4^2 + (-3)^2} = 5$

طول $BC = \sqrt{\left(-\frac{3}{2}\right)^2 + (-2)^2} = \frac{5}{2}$ $\quad P = 2 \times \left(\frac{5}{2} + 5\right) = 15$

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$m = -\frac{2m}{m^2-1} = \sqrt{3}$ $\quad \sqrt{3}m^2 + 2m - \sqrt{3} = 0$ $\quad \Delta < 0$ ریشه حقیقی ندارم

$m^2 + 2m - 3 = 0$ $\quad \left(m + \frac{3}{\sqrt{3}}\right)\left(m - \frac{1}{\sqrt{3}}\right) = 0$ $\quad -\frac{3}{\sqrt{3}}$, $\frac{1}{\sqrt{3}}$

اگر منفی ریشه های حقیقی است

که در اینجا $\Delta > 0$ و ریشه حقیقی ندارم

$\frac{1}{\sqrt{3}} - \left(-\frac{3}{\sqrt{3}}\right) \rightarrow \frac{4}{\sqrt{3}} = \frac{4\sqrt{3}}{3}$

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$m_{BC} = \frac{\Delta y}{\Delta x} = \frac{11-3}{7-3} = 2$ $\quad y - 3 = m(x-3)$ $\quad y - 2x + 3 = 0$ $\quad \frac{|ax_0 + by_0 + c|}{\sqrt{a^2+b^2}} \xrightarrow{\text{جایگذاری } A}$

$\frac{|-2(1) + 9 + 3|}{\sqrt{(-2)^2+1}} = \frac{10}{\sqrt{5}} \rightarrow 2\sqrt{5}$

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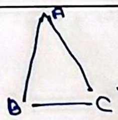
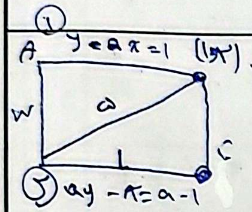
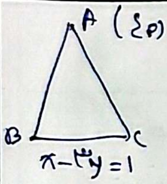
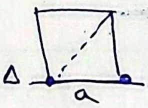


$\begin{cases} 2y - 7x = -19 \\ y + 2x = 7 \quad (\times -2) \end{cases} \longrightarrow -11x = -33 \rightarrow x = 3, \ y = 1$

جایگذاری B $(3,1)$ در AC $\longrightarrow \frac{|4(1) - 3(3) - 17|}{\sqrt{16+9}} = +\frac{22}{5} = 4.4$

$m = \frac{-6-0}{0+\frac{3}{4}} = -8$ $y+6 = -8(x+0)$ $y + 8x + 6 = 0$ مختصات راس $a + 8a + 6 = 0 \to$ مربع $9a = -6$ $a = -\frac{2}{3}$ قطر مربع $= a\sqrt{2}$ $-\frac{2\sqrt{2}}{3} = d$	۶
 $y - ax = 1$ $(1,2)$ → موازی بودن $m_1 = m_2 \Rightarrow a = \frac{1}{a} \to a^2 = 1 \to a = \pm 1$ $a = 1 \to x + y - 1 = 0$ $(1,2)$ $1 - 2 + 1 = 0$ ✓ $a = -1$ $1 + 2 - 1 \neq 0$ $ay - x = a - 1 \longrightarrow a = 1$ $L_1 = x - y + 1 = 0$ $L_2 = x - y + 0 = 0$ $W = \frac{\lvert c - c' \rvert}{\sqrt{a^2 + b^2}} = \frac{\lvert 1 - 0 \rvert}{\sqrt{1 + (-1)^2}} = \frac{1}{\sqrt{2}}$ $L^2 + \left(\frac{1}{\sqrt{2}}\right)^2 = 5^2$ $L^2 + \frac{1}{2} = 25$ $L^2 = 25 - \frac{1}{2} = \frac{49}{2}$ $L = \frac{7}{\sqrt{2}}$ $S = \frac{7}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{7}{2}$	۷
 $d = \frac{\lvert 4 - 3(0) - 1 \rvert}{\sqrt{1 + (-3)^2}} = \frac{3}{\sqrt{10}}$ $S = \frac{1}{2} \times d \times d = \frac{1}{2} \times \frac{3}{\sqrt{10}} \times \frac{3}{\sqrt{10}} = \frac{9}{20}$ $\to 3(3.5) + \frac{1}{2} - 12 = 10.5 + 0.5 - 12 = -1$ تغییرات طول B $BC_{max} = \sqrt{(3.7-1)^2 + (0.9-0)^2}$ ناحیه اول L از ... $= \sqrt{8.1} \to \frac{9}{\sqrt{10}}$ مقدار منفی: $3x_c + y_c - 12 < 0$ $3(3y_c + 1) + y_c - 12 < 0$ $S_{max} = \frac{1}{2} \times \frac{9}{\sqrt{10}} \times \frac{3}{\sqrt{10}} = \frac{1}{2} \times \frac{27}{10} \to \frac{27}{20}$ $10y_c - 9 < 0 \to y_c < 0.9$ $0 \le y < 0.9$	۸
$m = \frac{a - b}{-\frac{1}{2} + \frac{1}{4}} = \sqrt{3} \to a - b = -\frac{\sqrt{3}}{4}$  $a = \sqrt{(a-b)^2 + \left(-\frac{1}{2} + \frac{1}{4}\right)^2} \to \sqrt{\frac{3}{16} + \frac{1}{16}} = \sqrt{\frac{4}{16}} = \frac{1}{2} = a$ $d = a\sqrt{2} \to \frac{\sqrt{2}}{2}$	۹
$A \begin{vmatrix} -3 \\ -4 \end{vmatrix} \to OA = \sqrt{9+16} = 5$ $m_{OA} = \frac{4}{3}$ $m_L = -\frac{3}{4} \to y - (-4) = -\frac{3}{4}(x - (-3)) \to L: 3x + 4y + 25 = 0$ $m' = \frac{4}{3} \to y = \frac{4}{3}x + b \to 4x + c - 3y = 0 \to \frac{\lvert 4(0) - 3(0) + c \rvert}{\sqrt{16+9}} = 5$ $\frac{\lvert c \rvert}{5} = 5 \to \lvert c \rvert = 25$ $c = \pm 25$ ناحیه دوم $x < 0$ $y > 0$ $\begin{cases} 4x - 3y + 25 = 0 \\ 3x + 4y + 25 = 0 \end{cases}$ $x = -7$ $y = -1$ $(-7) \times (-1) = 7$	۱۰