«ایرعلی وحید» «یازدهم گروه A»

۱-

$m_{\text{عمود منصف}} = \frac{A-(-6)}{-2} = \frac{14}{-2} = -7 \rightarrow y = \frac{1}{7}x + b \rightarrow \left(\frac{2+\cancel{4}^{3}}{\cancel{2}}, \frac{A-\cancel{2}^{1}}{\cancel{2}}\right) = (3,1)$

$1 = \frac{3}{7} + b \rightarrow 1 - \frac{3}{7} = b \rightarrow \frac{4}{7} = b \rightarrow y = \frac{1}{7}x + \frac{4}{7}$

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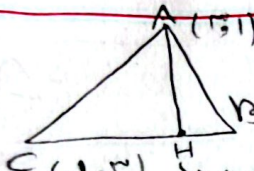

$\rightarrow \frac{3-7}{-1+3} \rightarrow \frac{-4}{2} \rightarrow m_{\text{ارتفاع}} = \frac{2}{3} \rightarrow y = \frac{2}{3}x + b \xrightarrow{(3,1)} 1 = \frac{9}{3} + b \rightarrow b = \frac{-5}{3}$

$y = \frac{2}{3}x - \frac{5}{3}$

$(-1,3) \; y = -\frac{4}{3}x + b$

$3 = \frac{4}{3} + b \rightarrow \frac{5}{3} = b \rightarrow y = -\frac{4}{3}x + \frac{5}{3} \rightarrow -\frac{4}{3}x + \frac{5}{3} = \frac{2}{3}x - \frac{5}{3}$

$\frac{5}{3} + \frac{5}{3} = \frac{2}{3}x + \frac{4}{3}x$

$\frac{10}{3} = \frac{10}{12}x$

$10 = 10x$

$x = 1.4$

$y = -0.2$

$\sqrt{(\cancel{3-1.4})^2 + (1.4+1)^2} = AH$

$\sqrt{(\cancel{-1+3})^2 + (3+1)^2} = BC$

$\omega - 2 = 3$

۳-

$4y - 5x = 2$

$2y - x = 7 \rightarrow \frac{4}{2} = \frac{5}{1} \rightarrow 4 = 2a$

$a = 2$

$\begin{cases} 4y - 2x = 2 \\ 2y - x = 14 \end{cases} \rightarrow \frac{12}{\sqrt{16+4}} = \frac{12}{20} = \frac{3}{5}$

$\frac{\frac{3}{5}}{2} = \frac{3}{10} \rightarrow \left(\frac{3}{10}\right)^2 \rightarrow \frac{9}{100} \rightarrow 0.09$

۴-

$\left(\frac{4+\cancel{2}^{3}}{\cancel{2}}, \frac{1+\cancel{3}^{2}}{\cancel{2}}\right) \rightarrow (3,2) \rightarrow M \rightarrow \sqrt{\underset{16}{4^2} + \underset{25}{5^2}} = \sqrt{41} \rightarrow MC$

$\frac{1-3}{4-2} = \frac{-2}{2} = -1 \rightarrow y = x + b \rightarrow -3 = -1 + b$

$-2 = b$

$\begin{cases} y = x - 2 \rightarrow CH \\ y = -x + 5 \end{cases}$

$2y = 3 \rightarrow y = 1.5$

$x = 3.5$

$y = -x + b$

$1 = -4 + b$

$5 = b \rightarrow y = -x + 5$

$\sqrt{(4.5)^2 + (4.5)^2} = \sqrt{40.5} \rightarrow CH$

$41 - 40.5 = 0.5$

$\sqrt{0.5} = HM$

۵-

$\frac{-3m+2}{5-m} = -\left(\frac{2m-4}{m+1}\right) \rightarrow \frac{-3m+2}{5-m} = \frac{-2m+4}{m+1}$

$-3m^2 + \cancel{13m} - \cancel{2} = -10m + \cancel{20} + 2m^2 - \cancel{4m} - \cancel{3m}$

$5m^2 - 13m + 18$

$m^2 - 13m + 90 \rightarrow (m-18)(m+5)$

$m = \frac{18}{5}, -1$

مخرج را نمی‌گیرد

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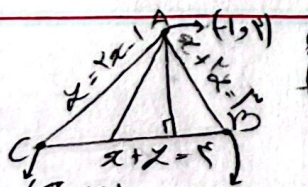

$\begin{cases} y = 2x - 1 \\ 2y = 3 - x \end{cases}$

$-5 = 5x$

$x = -1 \rightarrow A(-1,2)$

$y = 2$

$\begin{cases} y = 2x - 1 \\ 2y = 4 - 2x \end{cases}$

$\begin{cases} 2y = 3 - x \\ y = 4 - 2x \end{cases}$

$3y = 7 \rightarrow y = \frac{7}{3}$

$x = -\frac{5}{3}$

$3y = 7 \rightarrow y = \frac{7}{3}$

$x = \frac{5}{3}$

$\left(\frac{5}{3}, \frac{7}{3}\right) \quad \left(-\frac{5}{3}, \frac{7}{3}\right)$

$\left(0, \frac{14}{6}\right) \rightarrow \sqrt{(1)^2 + \frac{1}{9}} = \frac{10}{9}$

$\frac{\cancel{1-1+2-4}\,3}{\cancel{\sqrt{1+1}}\,\sqrt{2}} \Rightarrow \frac{3}{\sqrt{2}} \rightarrow \frac{\frac{10}{9}}{\frac{3}{\sqrt{2}}} = \frac{10\sqrt{2}}{27}$

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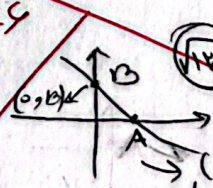

$\sqrt{125}$

$y + \frac{1}{2}x - B$

$\begin{cases} A = 10 \\ B = 5 \end{cases}$

$\frac{\left|\frac{1}{2}A + \cancel{B} - \cancel{B}\right|}{\cancel{\sqrt{1+\frac{1}{4}}}\,\sqrt{\frac{5}{4}}} \rightarrow \frac{\frac{A}{\cancel{2}}}{\frac{\sqrt{5}}{\cancel{2}}} \Rightarrow \frac{A}{\sqrt{5}} = \sqrt{20}$

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$my - 4x = 2m \longrightarrow y = \frac{4}{m}x + 2$

$y + nx = x + 2 \longrightarrow y = (1-n)x + 2$

$\left|\frac{2}{m-1} + \frac{m}{2}\right| = \frac{5}{2}$

$\left|m + \frac{4}{m-1}\right| = 5 \longrightarrow 4 = (5-m)(m-1) \Rightarrow m^2 - 6m + 9 = 0 \rightarrow m = 3$

$m + \frac{4}{m-1} = -5 \rightarrow 4 = (-5-m)(m-1) \rightarrow m^2 + 4m - 1$

$m = -2 \pm \sqrt{5} \longrightarrow (-2+\sqrt{5}) \times (-2-\sqrt{5}) = 4 - 5 = -1 \longrightarrow -3$

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$y = 2x - 3 \xrightarrow[\text{نقطه دلخواه}]{} (2,1) \longrightarrow \left(\frac{2+x}{2} = 2 \text{ و } \frac{1+y}{2} = -2\right) \longrightarrow M'(2,-5) \rightarrow y = 2x + b$

$x = 2$ و $y = -5$

$-5 = 4 + b$

$-9 = b$

$y = 2x - 9$

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$y = x + 5 \xrightarrow{\text{نقطه دلخواه}} (0,5) \longrightarrow \left(\frac{1+x}{2} = 0 \text{ و } \frac{2+y}{2} = 5\right) \longrightarrow A'(-1,8)$

$x = -1$ و $y = 8$

$16 + 1 = 17$

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