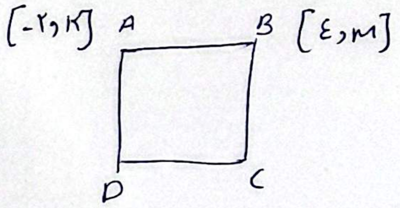
نام و نام خانوادگی ......پوریا ...... **پاسخنامه تشریحی تکلیف شماره** ..۱۷.. **کلاس** یازدهم ریاضی.........

۱۹

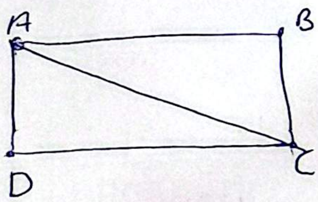


$AB \Rightarrow -\frac{1}{2} = \frac{m-k}{6} \Rightarrow -6 = 2m - 2k$ ۲

$m - k = -3$

$AB = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2} \Rightarrow \sqrt{\underbrace{(4+2)^2}_{36} + \underbrace{(m-k)^2}_{9}} = \sqrt{45}$ ۱

$(3\sqrt{5}) \Rightarrow S = 3\sqrt{5} \times 3\sqrt{5} = 45$



$A + C = D + B$

$-x - 1 + 3 = x - 1 \rightarrow 2x = 3 \rightarrow x = 1/5$ ۲

$y + 3 + 1 = y + 3$

$AB = CD = \sqrt{(3+1)^2 + (1-4)^2} = 5$ ۲

$AC^2 = AD^2 + DC^2 \Rightarrow \left(\sqrt{(x+1)^2 + (y-4)^2}\right)^2 = x^2 + (y-1)^2 + 25$

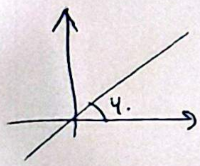
$-xy^2 - xy + 16 = y^2 - 2y + 1 + 1$

$-xy + 2y = 6 \rightarrow y = -1$

$AD = BC = \sqrt{(x-3)^2 + (y-1)^2}$

$\sqrt{6/25} \Rightarrow 2(\sqrt{6}) = 5$

$2mx + (m^2 - 1)y = 3$ $\quad y = \frac{-2m}{m^2-1}x + \frac{3}{m^2-1}$

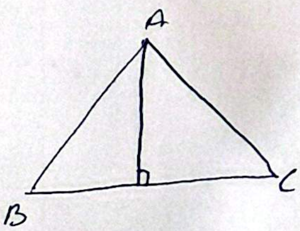


$\tan\alpha = \sqrt{3}$ $\quad \frac{-2m}{m^2-1} = \sqrt{3}$ ۲

$\sqrt{3}m^2 - \sqrt{3} = -2m \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3}$

$\Rightarrow m^2 + 2m - 3 \rightarrow (m+3)(m-1)$ $\begin{cases} -\frac{3}{\sqrt{3}} = -\sqrt{3} \\ \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3} \end{cases}$

$\frac{\sqrt{3}}{3} + \sqrt{3} = \frac{\sqrt{3} + 3\sqrt{3}}{3} = \frac{4\sqrt{3}}{3}$



$BC \rightarrow \frac{11-3}{7-3} = \frac{8}{4} = 2$ $\quad y = 2x - 3$

$y - 2x + 3 =$ ۲ ۳

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

$AB = y + 2x = 7$
$AC = 4y - 3x = 17$ $\Rightarrow \begin{cases} -4y - 8x = -28 \\ 4y - 3x = 17 \end{cases} \rightarrow \begin{matrix} x = 1 \\ y = 5 \end{matrix}$ ۲

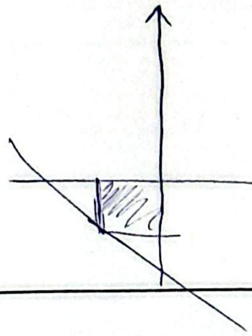
$BC = 2y - 7x = -19$ $\Rightarrow \begin{cases} 4y - 3x = 17 \\ 4y - 14x = -38 \end{cases} \rightarrow \begin{matrix} x = 5 \\ y = 8 \end{matrix}$ ۵

$\begin{cases} -4y - 8x = -14 \\ 2y - 7x = -19 \end{cases}$ $\quad \begin{matrix} x = 3 \\ y = 1 \end{matrix}$

$AC = \frac{8-5}{5-1} = \frac{3}{4}$

$y = \frac{3}{4}x + \frac{17}{4} \rightarrow 4y - 3x = 17$

$BH = \frac{|4 - 9 - 17|}{\sqrt{16+9}} = \frac{22}{5} = 4/4$



$\frac{-6}{\frac{3}{4}} = -8$ $y = -8x - 6$

$x = -8x - 6 \rightarrow 9x = -6$

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

$\frac{\text{ضلع}^2}{2} = \frac{4}{9} \rightarrow \text{ضلع} = \frac{2\sqrt{2}}{3}$

(2) 6

$ay - x = a - 1$

$y - ax = 1$

$\frac{a}{1} = \frac{-1}{-a} \rightarrow a^2 = 1 \rightarrow a = \pm 1$

$a = 1 \rightarrow \begin{cases} y - x = 0 \\ y - x - 1 = 0 \end{cases}$ (b,2) $2 - 1 - 1 = 0$ ✓

$\text{فاصله} = \frac{|1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}}$

$a = -1 \rightarrow \begin{cases} y + x - 1 = 0 \\ y + x - 2 = 0 \end{cases}$

$(\frac{1}{\sqrt{2}})^2 + b^2 = 25 \rightarrow \frac{1}{2} + b^2 = 25$

$b = \frac{7}{\sqrt{2}}$

$ab = \frac{7}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{7}{2}$

(2)

$\text{فاصله} = AH$, $AH \rightarrow \max S$

$x - 3y = 1 \rightarrow 3x + y = a$

$12 + 0 = a \rightarrow a = 12$

$\text{فاصله} = \frac{|4 - 0 - 1|}{\sqrt{1+9}} = \frac{3}{\sqrt{10}} = AH$

$H \begin{cases} x - 3y = 1 \\ 3x + y = 12 \end{cases} \rightarrow \begin{cases} 3x + 9y = -3 \\ 3x + y = 12 \end{cases}$

$10y = 9 \rightarrow y = \frac{9}{10} \rightarrow x = \frac{37}{10}$

$BH = \sqrt{(1 - \frac{37}{10})^2 + (\frac{9}{10})^2} = \sqrt{\frac{810}{100}} = \frac{9}{\sqrt{10}}$

$S = \frac{3}{\sqrt{10}} \times \frac{9}{\sqrt{10}} \times \frac{1}{2} = \frac{27}{20}$

(2) 8

$\frac{a - b}{-\frac{1}{2} + \frac{1}{3}} = \sqrt{3} \rightarrow a - b = -\frac{\sqrt{3}}{6}$

$AB = \sqrt{(-\frac{1}{2} + \frac{1}{3})^2 + (a - b)^2} = \sqrt{\frac{4}{36}} = \frac{2}{6} = \frac{1}{3}$

قطر = ضلع

$S = (\frac{1}{3})^2 = \frac{1}{9}$

$S = \frac{a \cdot a}{2} = \frac{1}{9}$

$a^2 = \frac{2}{9}$

$a = \frac{\sqrt{2}}{3}$

(2) 9

$OL = \sqrt{(3)^2 + (4)^2} = \sqrt{25} = 5$

$OA = \frac{|0 - 0 - 21|}{\sqrt{9+16}} = \frac{21}{5}$ $|c| = 25$

C = b

$y = \frac{4}{3}x + \frac{4}{3} \rightarrow -25$

$3y - 4x = -25$

$\begin{cases} 3y - 4x = -25 \\ 4y + 3x = -25 \end{cases} \rightarrow \begin{cases} 9y - 12x = -75 \\ 16y + 12x = -100 \end{cases}$

$25y \rightarrow y = -7$, $x = 1$

$\rightarrow xy = -7$

(1) 10

$L': y = \frac{4}{3}x + k$

$OA = 5$ $OL': \frac{3}{5}k = 5 \rightarrow k = \frac{25}{3}$

$\frac{25}{12}x = \frac{-175}{12} \rightarrow x_B = -7$ $y_B = -1$

$-7 \times -1 = 7$