نام و نام خانوادگی ......هستی رمضانی...... پاسخنامه تشریحی تکلیف شماره ...۱۷... کلاس ...یازدهم ریاضی......

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$m=\frac{k-m}{-2-4}=-\frac{1}{2} \to k-m=3$

$|AB|=\sqrt{(4+2)^2+(3)^2}=\sqrt{36+9}=\sqrt{45}=3\sqrt{5}$

$S_{مربع}=3\sqrt{5}\times 3\sqrt{5}=9\times 5=\boxed{45}$

۲ ۱

$m_{AB}=m_{CD} \to \frac{4-1}{-1-3}=\frac{y+3-y}{-1-x-x} \to \frac{3}{-4}=\frac{3}{-(1+2x)} \to x=1.5 \to C\,|\,1.5,\ -1$

$AC \perp AB \to m_{AB}=-\frac{3}{4} \Rightarrow m_{AC}=\frac{4}{3}$ $\quad \frac{4}{3}=\frac{y+1}{\frac{3}{2}-3} \to y-1=\frac{4}{3}\times\left(-\frac{3}{2}\right)=-2$

$y=-1$ ۲

۲

$\sqrt{9+16}=\sqrt{25}=5$

$\sqrt{\frac{9}{4}+4}=\sqrt{\frac{25}{4}}=2.5 \to 2(2.5+5)=\boxed{15}$

$(m^2-1)y=-2mx+3 \quad y=\frac{-2m}{m^2-1}x+\frac{3}{m^2-1} \quad \tan 60^\circ=\sqrt{3} \Rightarrow \frac{-2m}{m^2-1}=\sqrt{3} \to \sqrt{3}m^2-\sqrt{3}=-2m$

$\sqrt{3}m^2+2m-\sqrt{3}=0 \to m^2+\frac{2}{\sqrt{3}}m-1=0 \to \left(m+\frac{3}{\sqrt{3}}\right)\left(m-\frac{1}{\sqrt{3}}\right) \to \quad m_1=-\sqrt{3},\ m_2=\frac{\sqrt{3}}{3}$

$m_2-m_1=\frac{\sqrt{3}}{3}-(-\sqrt{3})=\frac{\sqrt{3}}{3}+\sqrt{3}=\boxed{\frac{4\sqrt{3}}{3}}$

۵ ۳

$m_{BC}=\frac{11-3}{7-3}=2 \quad y=2x-3 \to -2x+y+3=0$

$\frac{|-2(1)+1(9)+3|}{\sqrt{4+1}}=\frac{10}{\sqrt{5}}=\boxed{2\sqrt{5}}$

۵ ۴

$\begin{cases} AB: y+3x=7 \\ BC: 4y-3x=-19 \end{cases}$ $\quad x=-\frac{-19-14}{-7-4}=+3 \quad y=\frac{-3x+49}{-7-4}=+1$

$\frac{|4(-1)-3(4)-17|}{\sqrt{4^2+3^2}}=\frac{10}{\cancel{5}}=\boxed{2}$ $\quad \frac{22}{5}$

۱ ۵

$\frac{x}{\frac{3}{4}} = \frac{6-x}{6} \to 6x = 6\times\frac{3}{4} - \frac{3}{4}x \to \frac{27}{4}x = \frac{9}{2}$ 6

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

$\boxed{\frac{2}{3}\sqrt{2}}$ ل $\sqrt{2x^2} = x\sqrt{2} = \frac{2}{3}\sqrt{2}$

$x\sqrt{2}$

$\begin{cases} ay - x = a - 1 \\ y - ax = 1 \end{cases} \to \begin{matrix} y = \frac{x}{a} + \frac{a-1}{a} \\ y = ax + 1 \end{matrix} \to \frac{1}{a} = a \to a^2 = 1 \to a = \pm 1$ 7

$a = 1 \to y = x \to \boxed{y = x + 1}$ غ‌ق‌ق $\to y = \frac{|c - c'|}{\sqrt{a^2+b^2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$a = -1 \to y = -x + 2,\ y = -x + 1$ غ‌ق‌ق

$5 = \sqrt{x^2+y^2} \Rightarrow \left(\frac{\sqrt{2}}{2}\right)^2 + x^2 = 25 \to x^2 = \frac{49}{2} \to x = \frac{7}{\sqrt{2}} = \frac{7\sqrt{2}}{2}$

$S = \frac{\sqrt{2}}{2} \times \frac{7\sqrt{2}}{2} = \frac{7}{2} = \boxed{3{,}5}$

$y = \frac{1}{3}x - \frac{1}{3} \quad m_{AC} = -3 \to y = -3x + 12$ 8

$-3x + 12 = \frac{1}{3}x - \frac{1}{3} \to \frac{37}{3} = \frac{10}{3}x \to x = 3{,}7 \quad , y = 0{,}9$

$AC = \sqrt{(0{,}3)^2 + (0{,}9)^2} = 0{,}3\sqrt{10} \qquad BC = \sqrt{(2{,}7)^2 + (0{,}9)^2} = 0{,}9\sqrt{10}$

$S = \frac{AB \times BC}{2} = \frac{0{,}3\sqrt{10} \times 0{,}9\sqrt{10}}{2} = \boxed{1{,}35}$

$m = \sqrt{3} = \frac{b-a}{-\frac{1}{3}+\frac{1}{2}} \to \frac{b-a}{\frac{1}{6}} = \sqrt{3} \to b - a = \frac{\sqrt{3}}{6}$ 9

$a = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2} = \sqrt{\frac{1}{36} + \frac{3}{36}} = \sqrt{\frac{4}{36}} = \frac{2}{6} = \frac{1}{3}$

$-\frac{1}{3} - \left(-\frac{1}{2}\right) = \frac{1}{6} \qquad \frac{\sqrt{3}}{6}$

قطر $= \boxed{\frac{\sqrt{2}}{3}}$

$\sqrt{3^2+4^2} = 5 \qquad m_{OB} = \frac{4}{3} \to m_L = -\frac{3}{4} \qquad OA = y = \frac{4}{3}x$ 10

$\hookrightarrow m_{L'} = \frac{4}{3} \qquad L' = \frac{4}{3}x + C \to \frac{4}{3}x + \frac{25}{3}$

$r = 5 = \frac{C}{\sqrt{1^2 + \left(\frac{4}{3}\right)^2}} = \frac{C}{\frac{5}{3}} = \frac{3C}{5} = 5 \Rightarrow C = \frac{25}{3} \qquad L = -\frac{3}{4}x - \frac{25}{4}$

$\frac{4}{3}x_B + \frac{25}{3} = -\frac{3}{4}x_B - \frac{25}{4} \to 25x_B = -175 \to x_B = -7 \quad y_B = -\frac{28}{3} + \frac{25}{3} = -1$

$\boxed{(-1 \times (-7) = 7}$