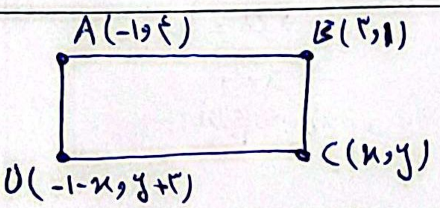
نام و نام خانوادگی ...علی ملاحیان... پاسخنامه تشریحی تکلیف شماره ..۱۷.. کلاس ...یازدهم ب A...

۱

$m = \frac{m-k}{6} = \frac{-1}{2} \to -6 = 2m - 2k \to m - k = -3$

$AB = \sqrt{(6^2)+(m-k)^2} = \sqrt{36+9} = 3\sqrt{5} \to S = (3\sqrt{5})^2 = 45$

۲



$AB = \sqrt{3^2+4^2} = 5$

$\to CD = 5 = \sqrt{(2x+1)^2+(-3)^2} = \sqrt{4x^2+4x+1+9} = \sqrt{25}$

$\to 4x^2+4x-15 = 0 \to x^2+4x-60 = 0 \to (x-6)(x+10) = 0$

$\to x = \frac{6}{4}, \frac{-10}{4}$, $\sqrt{(x-3)^2+(y-1)^2} = \sqrt{x^2+(y-4)^2} \to x = \frac{3}{2}$

۳

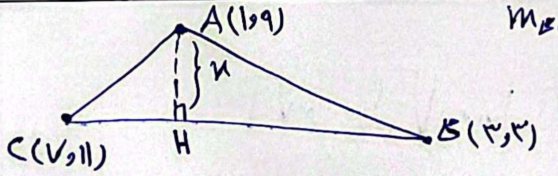
$m = \tan 60 = \sqrt{3}$

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

$\to m = \frac{-3}{\sqrt{3}} = -\sqrt{3}$

$m = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

۴



$m_{BC} = \frac{11-3}{7-3} = 2 \to m_{AH} = -\frac{1}{2}$

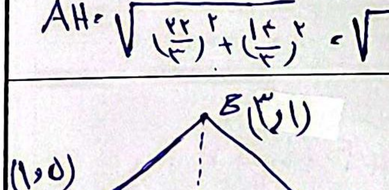
$y_{BC} = 2x + h \to 3 = 6 + h \to h = -3 \to y = 2x - 3$

$y_{AH} = -\frac{1}{2}x + h \to 9 = -\frac{1}{2} + h \to h = \frac{19}{2} \to y' = -\frac{1}{2}x + \frac{19}{2}$

$2x - 3 = -\frac{1}{2}x + \frac{19}{2} \to \frac{3}{2}x = \frac{25}{2} \to 3x = 25 \to x = \frac{25}{3}, y = \frac{41}{3}$

$AH = \sqrt{(\frac{22}{3})^2 + (\frac{14}{3})^2} = \sqrt{\frac{484+196}{9}} = \sqrt{\frac{680}{9}}$

۵



$A \Rightarrow \frac{3x+17}{4} = 7 - 2x \to 28 - 8x = 3x + 17$

$\to 11 = 11x \to x = 1, y = 5$

$C \Rightarrow \frac{7x-19}{2} = \frac{3x+17}{4} \to 14x - 38 = 3x + 17 \to 11x = 55$

$\to x = 5, y = 8$

$B \Rightarrow 7 - 2x = \frac{7x-19}{2} \to 14 - 4x = 7x - 19 \to 11x = 33 \to x = 3, y = 1$

$y_{AC} = \frac{3}{4}x + h \to 5 = \frac{3}{4} + h \to h = \frac{17}{4} \Rightarrow \frac{3}{4}x + \frac{17}{4} = -\frac{4}{3}x + 5 \to \frac{25x}{12} = \frac{3}{4} \to x = \frac{3}{7}$, $y = \frac{31}{7}$

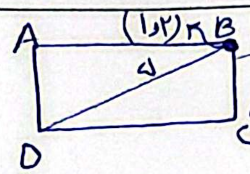
$y_{BH} = -\frac{4}{3}x + h \to 1 = -4 + h \to h = 5$

$\Rightarrow BH = \sqrt{(3-\frac{3}{7})^2 + (\frac{31}{7}-1)^2} = \sqrt{(\frac{18}{7})^2 + (\frac{24}{7})^2} = \sqrt{\frac{900}{49}} = \frac{30}{7}$

$y=mx+h \rightarrow m=\frac{-6}{\frac{3}{4}}=-8 \rightarrow y=-8x-6$

$\xrightarrow[x=y]{(x,x)} x=-8x-6 \rightarrow 9x=-6 \rightarrow x=\frac{-6}{9}=-\frac{2}{3}$

$\rightarrow$ قطر $=-\frac{2}{3}\sqrt{2}$ ۶



$y-ax=1 \Rightarrow y=x+1$

$ay-x=a-1 \Rightarrow y=x$

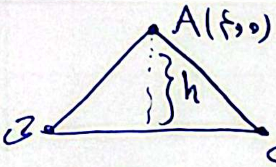
$m_{AB}=m_{DC} \Rightarrow \frac{a}{1}=\frac{1}{a} \Rightarrow a^2=1 \rightarrow a=\pm 1 \rightarrow a=+$

منفی نگذاریم در معادله صدق نمی‌کند.

$y=ax+1 \xrightarrow{a=1} y=x+1$ ۷

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

$BC=\frac{|2-1|}{\sqrt{2}}=\frac{\sqrt{2}}{2} \Rightarrow S=(5\times\frac{\sqrt{2}}{2})\times 2=5\sqrt{2}$

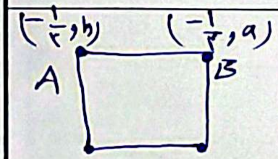


$C: 3y=x-1$

$\frac{|4-1|}{\sqrt{10}}=\frac{3}{\sqrt{10}}=BC=h$

$\rightarrow S=\frac{BC\times h}{2}=(\frac{3}{\sqrt{10}})^2\times\frac{1}{2}=\frac{9}{10}\div 2=\frac{9}{20}$ ۸

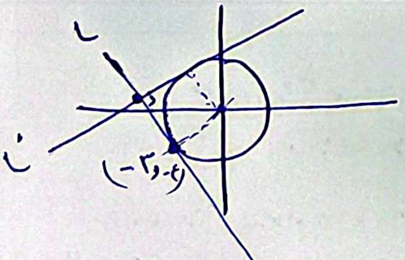
$S=?$



$m=\frac{b-a}{\frac{1}{4}}=\sqrt{3} \rightarrow b-a=\frac{\sqrt{3}}{4}$

طول قطر $=AB\sqrt{2} \rightarrow \sqrt{(\frac{1}{4})^2+(\frac{\sqrt{3}}{4})^2}\sqrt{2}=\sqrt{\frac{4}{16}}\times\sqrt{2}$ ۹

$=\frac{2}{4}\sqrt{2}=\frac{\sqrt{2}}{2}$



شیب OA $=\frac{-4}{-3}=\frac{4}{3}$

$m_L=-\frac{3}{4} \rightarrow y=-\frac{3}{4}x+h \rightarrow -4=+\frac{9}{4}+h \rightarrow h=-\frac{25}{4}$

$\rightarrow y=-\frac{3}{4}x-\frac{25}{4}$ ۱۰

$m_{L'}=\frac{4}{3} \rightarrow y=\frac{4}{3}x+h \rightarrow y=\frac{4}{3}x+\frac{25}{3}$

$\frac{|0+0+h|}{\sqrt{1+\frac{16}{9}}}=5 \rightarrow h=\frac{25}{3}$

$\rightarrow \frac{4}{3}x+\frac{25}{3}=-\frac{3}{4}x-\frac{25}{4} \rightarrow \frac{25x}{12}=\frac{-175}{12} \rightarrow x=-7$

$\sqrt{\frac{25}{9}}=\frac{5}{3}$

$-7\times -1=7 \leftarrow y=-1$