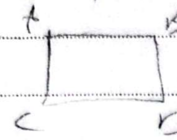
باران شریفی کلاس A سری ۱۷

۲۰

Subject:

Year: Month: Day: page: ( )

سوال ۱: $m = -\frac{1}{2}$ $A(-2,k)$ $B(4,m)$

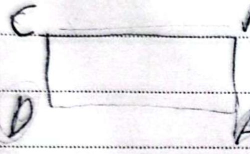


$m = \frac{y_B - y_A}{x_B - x_A} = \frac{m-k}{4-(-2)} = -\frac{1}{2} \to m-k = -3$

۳

$AB = \sqrt{(4+2)^2 + (m-k)^2} = \sqrt{45} \to AB^2 = 45$

سوال ۲: $A(-1,4)$ $B(3,1)$ $C(x,y)$ $D(-1-x, y+3)$



$x_A + x_C = x_B + x_D$

$-1 + x = 3 - 1 - x \to x = +\frac{3}{2}$

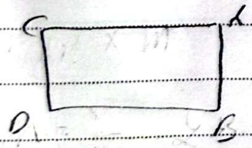
$m_{AB} = -\frac{1}{m_{AD}} \to m_{AB} \times m_{AD} = -1 \to -\frac{3}{4} \times \frac{\dots}{\dots} = -1 \to y = -1$

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

$AD = \sqrt{(-1+\frac{5}{2})^2 + (4-2)^2} = \frac{5}{2}$

$P = (5 + \frac{5}{2}) \times 2 = 15$

$x_A + x_D = x_B + x_C \to -1 - 1 - x = 3 + x \to -2x = 5 \to x = -\frac{5}{2}$

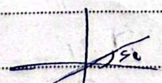


$y_A + y_D = y_B + y_C$

$y + 7 = y + 4$ غلط

پس A روبروی C است

سوال ۳: $2mx + (m^2-1)y = 3$



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

$y = -\frac{2m}{m^2-1}x + \frac{3}{m^2-1}$

$\frac{-2m}{m^2-1} = \sqrt{3} \to \sqrt{3}m^2 - \sqrt{3} = -2m$

$\sqrt{3}m^2 + 2m - \sqrt{3} = 0$

$\Delta = 4 - 4(-\sqrt{3} \times \sqrt{3}) = 16$

$\frac{-2 \pm 4}{2\sqrt{3}}$: $\frac{-6}{2\sqrt{3}} = -\sqrt{3}$, $\frac{2}{2\sqrt{3}} = \frac{\sqrt{3}}{3}$

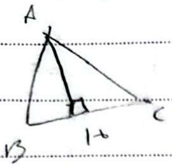
$|\frac{\sqrt{3}}{3} - (-\sqrt{3})| = \frac{4\sqrt{3}}{3}$

Arman

$\frac{x+1}{\dots} = 4$ $3y - 3 = -24$

سوال ۴:

$A(۱,۹)$ $B(۳,۳)$ $C(۷,۱۱)$



$m_{BC} = \frac{۱۱-۳}{۷-۳} = \frac{۸}{۴} = ۲$

$y-۳ = ۲(x-۳)$

$y-۲x+۳=۰$

$AH = \frac{|۱\times۹+(-۲\times۱)+۳|}{\sqrt{۱+۴}} = \frac{۱۰}{\sqrt{۵}} \rightsquigarrow \frac{۱۰\sqrt{۵}}{۵} = ۲\sqrt{۵}$

(۳)

سوال ۵:

$AB: y+۲x=۷$

$AC: ۴y-۳x=۱۷$

$BC: ۲y-۷x=-۱۹$

$-۴(y+۲x=۷)$

$۴y-۳x=۱۷$

$-۱۱x=-۱۱ \rightsquigarrow x_A=۱ \quad y_A=۵$

(۵)

$AC: ۴y-۳x=۱۷$

$BC: ۲y-۷x=-۱۹)$

$-۴y+۱۴x=+۳۸$

$۱۱x=۵۵$

$x=۵ \rightsquigarrow y_C=۸$

$-۲(-۲y-۴x=-۱۴)$

$AB: y+۲x=۷$

$BC: ۲y-۷x=-۱۹$

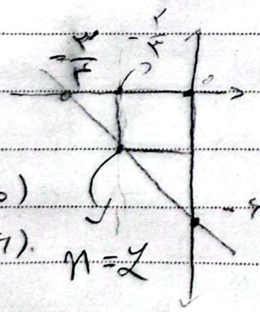
$-۱۱x=-۳۳ \rightsquigarrow x_B=\frac{۳۳}{۱۱}=۳ \quad y_B=۱$

$m_{AC} = \frac{۸-۵}{۵-۱} = \frac{۳}{۴}$ $\quad y-۸=\frac{۳}{۴}(x-۵)$

$y-\frac{۳}{۴}x-\frac{۱۷}{۴}=۰ \rightsquigarrow ۴y-۳x-۱۷=۰$

$\frac{|۴\times۱-۳\times۳-۱۷|}{\sqrt{۱۶+۹}} = \frac{۲۲}{۵} = ۴,۴$

سوال ۶:



$m = \frac{-۶-۰}{۰-(-\frac{۳}{۴})} = -۸$

$y+۶=-۸(x-۰)$

$y=-۸x-۶$

$x=-۸x-۶ \rightsquigarrow ۹x=-۶ \rightsquigarrow x=-\frac{۶}{۹}=-\frac{۲}{۳} \quad y=-\frac{۲}{۳}$

$قطر^۲ = (-\frac{۲}{۳})^۲+(-\frac{۲}{۳})^۲ = \frac{۸}{۹}$

$\rightsquigarrow قطر = \frac{\sqrt{۸}}{۳}$

(۲)

سوال ۷:

$y-ax=۱$ $\quad ay-x=a-۱$ $\quad قطر=۵$

$y=ax+۱$ $\quad y=\frac{x}{a}+\frac{a-۱}{a}$ $\quad A(۱,۲)$

$a=\frac{۱}{a} \rightsquigarrow a^۲-۱=۰ \rightsquigarrow a=\pm۱ \rightsquigarrow$ ۱- غ‌ق‌ق چون م بدست نمی‌آید

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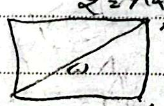
$y=x+۱$

$y=x$



$AB = \frac{۱}{\sqrt{۲}} \rightsquigarrow \frac{\sqrt{۲}}{۲}$ $\quad CB^۲+(\frac{\sqrt{۲}}{۲})^۲=۲۵$ $\quad CB=\frac{۷}{\sqrt{۲}} \rightsquigarrow \frac{۷\sqrt{۲}}{۲}$

$S = \frac{\sqrt{۲}}{۲}\times\frac{۷\sqrt{۲}}{۲} = \frac{۷}{۲} = ۳,۵$

۸، ۱۶، ۱۳، ۱، ۷، ۱۰ باران شریفی کلاس نهم ۸

Subject:
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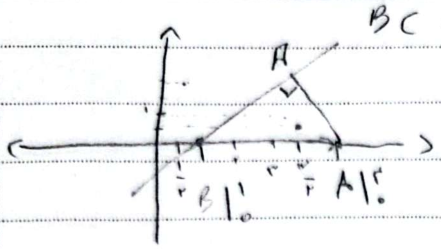
سوال ۸: ②



$BC: x-3y=1$

$y=0 \to x=1$

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

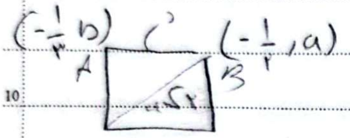
$BH^2 + AH^2 = AB^2 \to BH^2 = 9 - \frac{9}{10} = \frac{81}{10}$

$BH = \frac{9}{\sqrt{10}}$

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

سوال ۹: ③

$m=\sqrt{3}$



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

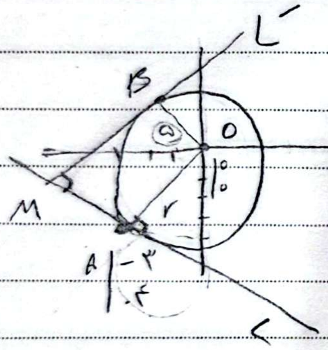
$-\frac{1}{6}$

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

قطر $= a\sqrt{2}$

$a=\frac{1}{3} \to$ قطر $= \frac{\sqrt{2}}{3}$

سوال ۱۰: ③



$r = \sqrt{(-3-0)^2+(-4-0)^2} = 5$

$OA \parallel BM$ $m_{OA} = \frac{-4-0}{-3-0} = \frac{4}{3}$ $m_{BM} = \frac{4}{3}$

$L: y+4 = -\frac{3}{4}(x+3)$ $m_L = -\frac{3}{4}$

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

$x_B + 3 = x_M + 0$

$y_B - 4 = y_M$

$OB = 5 \to \sqrt{(x-0)^2+(y-0)^2} = 5$ $B\,\Big|\begin{matrix}-3\\ 4\end{matrix} \to y-4 = \frac{4}{3}(x+3)$

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

$(4y = -3x - 25)\times 3$

$3y = 4x + 25)\times 4$

$12y + 9x = -75$

$-12y + 16x = -100$

$\left\{ 25x = -175 \to x = -7 \quad y = -1 \right.$

$x \times y = 7$

Arman