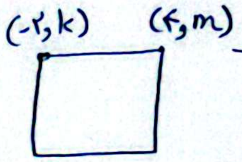
نام و نام خانوادگی ......امیرحسین .... پاسخنامه تشریحی تکلیف شماره ......17...... کلاس ......یازدهم......

1

$(-2, k)\ ,\ (4, m)$

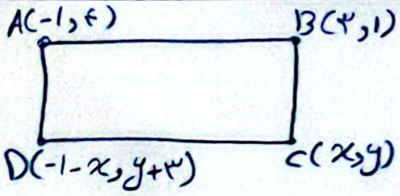
$\rightarrow m = \frac{k-m}{-2-4} = -\frac{1}{2} \rightarrow k-m=3$



$\rightarrow$ ضلع $= \sqrt{(k-m)^2+(-2-4)^2} = \sqrt{9+36} = \sqrt{45}$

$\rightarrow S = (\sqrt{45})^2 = 45$

2



$m_{AB} = \frac{4-1}{-1-3} = \frac{3}{-4} \rightarrow m_{BC} = \frac{4}{3}$

$\rightarrow \frac{4}{3} = \frac{y-1}{\frac{3}{2}-3} \Rightarrow \frac{4}{3} = \frac{y-1}{-\frac{3}{2}} \rightarrow -2 = y-1 \quad \boxed{y=-1}$

$\rightarrow y+4 = y+4$

$\rightarrow 3-1-x = x-1$

$2x = 3 \rightarrow \boxed{x = \frac{3}{2}} \rightarrow \boxed{y = -1}$

$d_{AB} = \sqrt{(-1-3)^2+(4-1)^2} = \sqrt{16+9} = \sqrt{25} = 5$

$d_{BC} = \sqrt{(\frac{3}{2})^2+2^2} = \sqrt{\frac{9}{4}+4} = \sqrt{\frac{25}{4}} = \frac{5}{2}$

محیط $\rightarrow 2(5+\frac{5}{2}) = 2(\frac{15}{2}) = \boxed{15}$

3

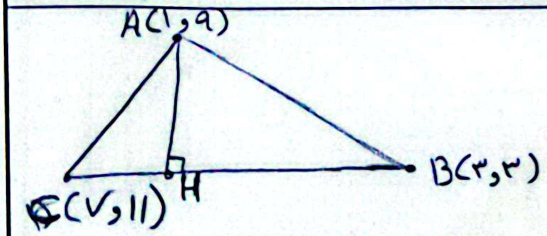
شیب $= \tan 60^\circ = \sqrt{3}$

$y = \frac{-2mx+3}{m^2-1} \rightarrow M_{شیب} = \frac{-2m}{m^2-1} = \sqrt{3} \rightarrow \sqrt{3}m^2+2m-\sqrt{3} = 0$ (b^2-4ac)

روش Δ: $\frac{-2 \pm \sqrt{4+12}}{2\sqrt{3}} = \frac{-2 \pm 4}{2\sqrt{3}}$

$\frac{-1 \pm 2}{\sqrt{3}} \xrightarrow{\text{مقادیر}} \frac{1}{\sqrt{3}} > -\frac{3}{\sqrt{3}} \xrightarrow{\text{قدرمطلق تفاوت}} \left|\frac{-3-1}{\sqrt{3}}\right| = \boxed{\frac{4}{\sqrt{3}}}$

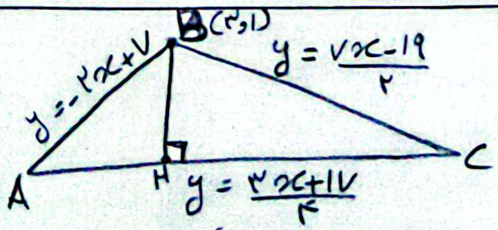
4



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

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

5



$4y-3x-17=0$

محل تقاطع خطوط AB و BC $\Rightarrow -4x+14 = 7x-19$

$11x = 33 \rightarrow \boxed{x=3} \rightarrow \boxed{y=1}$

$d_{BH} = \frac{|4-9-17|}{\sqrt{4^2+3^2}} = \frac{22}{\sqrt{25}} = \frac{22}{5} = \boxed{4.4}$

مختصات نقطه $= (-\alpha, -\alpha)$

$$\begin{cases}(-\frac{3}{4}, 0) \\ (0, -6)\end{cases} \to m = \frac{6}{-\frac{3}{4}} = -8 \to y = -8x - 6$$

(در معادله) جایگذاری $\to -\alpha = 8\alpha - 6$

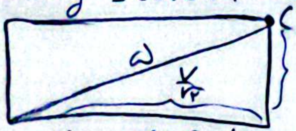
$9\alpha = 6$

$\alpha = \frac{6}{9} = \frac{2}{3} \to (-\frac{2}{3}, -\frac{2}{3})$ طول ضلع $\to \sqrt{(-\frac{2}{3} - 0)^2} = \sqrt{(\frac{-2}{3})^2} = \frac{2}{3}$

نقاط برخورد مربع با محورها $(-\frac{2}{3}, 0)$

طول ضلع $\times \sqrt{2} =$ قطر $\to \frac{2}{3} \times \sqrt{2} = \frac{2\sqrt{2}}{3} \to \sqrt{2}$ 6

$y = x+1 \leftarrow y = ax + 1 \to m = a$



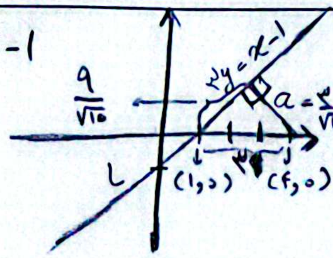
$\to a = \frac{1}{a} \Rightarrow a = \pm 1 \to$ چون تنها حالتی که (۲،۱) در یکی از این معادله‌ها صدق کند $a=1$ است، پس $\leftarrow$ $\boxed{a=1}$

$y = \frac{x + a - 1}{a} \to m = \frac{1}{a}$ $\to d = \frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{1}{\sqrt{2}}$ 7

$\hookrightarrow y = x$

طبق فیثاغورس $\to 25 = \frac{1}{2} + x^2 \to x^2 = \frac{49}{2} \Rightarrow \frac{7}{\sqrt{2}} = x \Rightarrow S = \frac{1}{\sqrt{2}} \times \frac{7}{\sqrt{2}} = \boxed{\frac{7}{2}}$

$3y = x - 1$



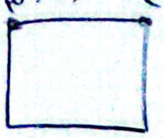
فاصله A تا خط L $\to \frac{|-4+1|}{\sqrt{10}} = \frac{3}{\sqrt{10}}$

طبق فیثاغورس $\to 9 = \frac{9}{10} + x^2 \to x^2 = \frac{81}{10} \Rightarrow x = \frac{9}{\sqrt{10}}$ 8

$S = \frac{1}{2} \times \frac{3}{\sqrt{10}} \times \frac{9}{\sqrt{10}} = \frac{27}{20} = \frac{13.5}{10} = \boxed{1.35}$

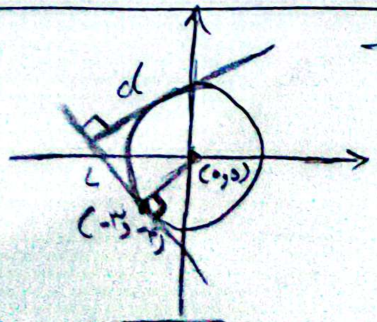
$(-\frac{1}{3}, b)\ (-\frac{1}{2}, a) \to m = \frac{b - a}{-\frac{1}{3} + \frac{1}{2}} = \frac{6(b-a)}{1} = \sqrt{3} \to b - a = \frac{\sqrt{3}}{6}$

$\frac{-2+3}{6}$



$\to d = \sqrt{(-\frac{1}{3} + \frac{1}{2})^2 + (\frac{\sqrt{3}}{6})^2} = \sqrt{\frac{1}{36} + \frac{3}{36}} = \sqrt{\frac{4}{36}} = \frac{2}{6} = \boxed{\frac{1}{3}}$ 9

قطر $\to \frac{\sqrt{2}}{3}$



$\to (-3, -4)$ و $(0, 0) \to m_{\text{شعاع}} = \frac{4}{3} = \frac{4}{3}$

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

$\to m_d = \frac{4}{3}x + b \Rightarrow = \frac{4}{3}x + \frac{25}{3}$

نقطه‌ی برخورد $\to -\frac{3}{4}x - \frac{25}{4} = \frac{4}{3}x + \frac{25}{3}$

$-9x - 75 = 16x + 100$

$d_{\text{شعاع}} = \sqrt{(3)^2 + (-4)^2} = \sqrt{25} = 5$ به دنبال نقطه‌ای در راستای دو با همین فاصله $\to \frac{|c|}{\sqrt{1 + \frac{16}{9}}} = 5 \to c = 5\sqrt{\frac{25}{9}} = 5 \times \frac{5}{3} = \frac{25}{3}$

$25x = -175$

$xy = (-7)(-1) = \boxed{7}$ $\Leftarrow$ $\boxed{y = -1}$ $\leftarrow$ $\boxed{x = -7}$