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نام و نام خانوادگی: ابوالفضل ابومناصیر پاسخنامه تشریحی تکلیف شماره ۱۷ کلاس: یازدهم

$$m = \frac{dy}{dx} = \frac{k-m}{-2-4} = \frac{k-m}{-6} = \frac{1}{-2} \Rightarrow k-m=3$$

$$|AB| = \sqrt{(k-m)^2 + (-2-4)^2} = \sqrt{9+36} = \sqrt{45} \Rightarrow S = (\sqrt{45})^2 = 45 \checkmark$$

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$$|AB| = \sqrt{(5-1)^2 + (-1-3)^2} = \sqrt{9+16} = 5 \checkmark$$

$$|CD| = \sqrt{(2x+1)^2 + 9} = 5 \Rightarrow (2x+1)^2 + 9 = 25 \rightarrow 2x+1 = 4 \rightarrow x = \frac{3}{2}, y = -1$$

$$\rightarrow |AD| = \sqrt{(5-2)^2 + (1-3)^2} = \sqrt{4+4} = \sqrt{8} = 2\sqrt{2} \checkmark$$

$$\begin{cases} A: (-1, 4) \\ D: (-2, 8, 2) \end{cases} \Rightarrow P = (5 + 2\sqrt{2}) \times 2 = 10 + 4\sqrt{2} \checkmark$$

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$$\text{کسب} = \frac{-2m}{m^2-1} = \sqrt{3} \Rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0 \rightarrow m = \begin{cases} \frac{-2 + \sqrt{4+12}}{2\sqrt{3}} = \frac{1}{\sqrt{3}} \\ \frac{-2 - \sqrt{16}}{2\sqrt{3}} = -\sqrt{3} \end{cases}$$

$$\text{اضلاع} = \left| -\sqrt{3} - \frac{1}{\sqrt{3}} \right| = \left| \frac{3\sqrt{3} + 1}{\sqrt{3}} \right| = \left| \frac{4\sqrt{3}}{\sqrt{3}} \right| = 4 \checkmark$$

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$$m_{BC} = \frac{2-11}{2-5} = 2 \rightarrow m_{AH} = -\frac{1}{2} \xrightarrow{A(1,9)} y = -\frac{1}{2}(1) + b = 9 \Rightarrow b = 9.5$$

$$BC \text{ خط: } y = 2(x) + b = 2 \rightarrow b = 2 \Rightarrow BC: y = 2x - 2$$

$$H \text{ روی } BC \rightarrow 2x - 2 = -\frac{1}{2}x + 9.5 \Rightarrow x = 8, y = 14$$

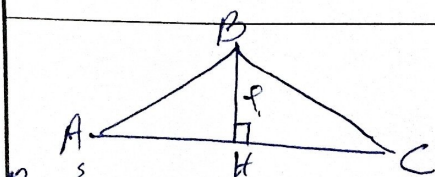
$$\Rightarrow |AH| = \sqrt{(8-1)^2 + (14-9)^2} = \sqrt{49+25} = \sqrt{74} = \sqrt{2} \checkmark$$

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$$AC: 4y - 3x - 14 = 0 \rightarrow m_{BH} = -\frac{4}{3}$$

$$\rightarrow m = \frac{4}{3}$$



$$B \text{ روی } BH: 4x - 3y + 14 = 0 \Rightarrow \begin{cases} x = 3 \\ y = 10 \end{cases}$$

$$BH \text{ خط: } -\frac{4}{3}x + 8 = \frac{4}{3}x + \frac{14}{3} \Rightarrow \begin{cases} x = 0.34 \\ y = 10.68 \end{cases}$$

$$\rightarrow BH = \sqrt{(3-0.34)^2 + (10-10.68)^2} = 1.2 \checkmark$$

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$$m = \frac{dy}{dx} = \frac{y}{\frac{x}{2}} = \frac{2y}{x} = \lambda \xrightarrow{\text{منبر = نسبت یاب}} m = -\lambda, b = -4$$

$$\rightarrow \text{معادله} = -\lambda x - 4 = y \rightarrow \text{مختصات نقطه رأس مربع} = (x, -\lambda x - 4) \quad (\text{روی رأس})$$

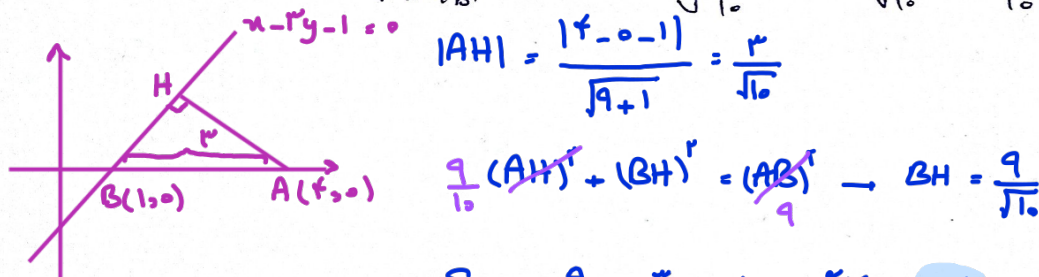
$$\xrightarrow{\text{مربع}} x = -\lambda x - 4 \Rightarrow x = \frac{-4}{\lambda} = \frac{-2}{\frac{\lambda}{2}} \Rightarrow \text{قطر} = \sqrt{2} \quad \text{مساحت} = \frac{1}{2} \sqrt{2} \quad \checkmark$$

$$\begin{cases} y - ax = 1 \rightarrow m = a \\ ay - x = a - 1 \rightarrow m = \frac{1}{a} \end{cases} \rightarrow a = \frac{1}{a} \Rightarrow a^2 = 1 \rightarrow a = \pm 1$$

$$\Rightarrow \begin{cases} a = 1 \rightarrow 1 + x = x \Rightarrow x = 1 \rightarrow y = 2 \Rightarrow \text{نقطه} (1, 2) \text{ و } \\ a = -1 \rightarrow -x + 1 = -x + 2 \rightarrow 1 = 2 \text{ غلط} \end{cases}$$

$$\frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{y - x = 1}{y - x = 0} \rightarrow \text{مساحت} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \Rightarrow \left(\frac{\sqrt{2}}{2}\right)^2 + (\text{قطر})^2 = 2 \Rightarrow \text{قطر} = \frac{\sqrt{2}}{2} \Rightarrow S = \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{1}{2} \quad \checkmark$$

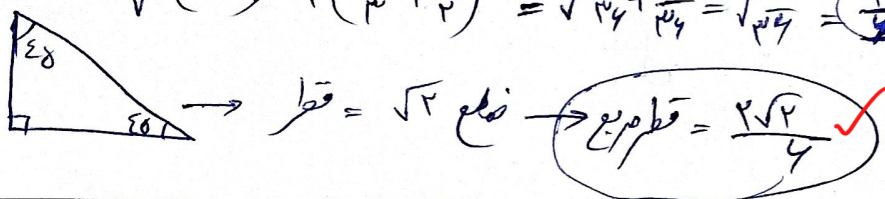
$$x - 2y - 1 = 0 \rightarrow \frac{|ax_0 + by_0 + c|}{\sqrt{a^2 + b^2}} = \frac{|1 - 0 - 1|}{\sqrt{1 + 4}} = \frac{0}{\sqrt{5}} = 0 \quad \checkmark \quad \frac{3\sqrt{10}}{10}$$



$$S_0 = \frac{9}{\sqrt{10}} \times \frac{3}{\sqrt{10}} \times \frac{1}{2} = \frac{27}{20} = 1.35$$

$$m = \frac{b - a}{-\frac{1}{\mu} + \frac{1}{\nu}} = \frac{b - a}{\frac{1}{\mu} - \frac{1}{\nu}} = \frac{1}{\mu} (b - a) = \sqrt{3} \Rightarrow b - a = \frac{\sqrt{3}}{\mu}$$

$$\text{اندازه ضلع} = \sqrt{(b - a)^2 + \left(-\frac{1}{\mu} + \frac{1}{\nu}\right)^2} = \sqrt{\frac{3}{\mu^2} + \frac{1}{\mu^2}} = \sqrt{\frac{4}{\mu^2}} = \frac{2}{\mu} \quad \checkmark$$



$$\text{مساحت} = \sqrt{(3 - 0)^2 + (2 - 0)^2} = \sqrt{13} = \sqrt{13}$$

خط L و L' به یکدیگر عمود اند از طرفی شیب خط L' $(0, 0)$ و $(-3, -4)$ یکسان از خط L و L' به هم عمود است

$$\begin{cases} \frac{-2 - 0}{-3 - 0} = \frac{4}{3} \Rightarrow \text{شیب خط L} = \frac{4}{3} \\ \frac{-2 - 0}{-3 - 0} = \frac{4}{3} \Rightarrow \text{شیب خط L'} = -\frac{3}{4} \end{cases} \Rightarrow \begin{cases} \text{خط L: } y = \frac{4}{3}x - 2 \\ \text{خط L': } y = -\frac{3}{4}x - 2 \end{cases}$$

$$\rightarrow \text{مساحت} = -\frac{3}{4}x - 2 = \frac{4}{3}x + \frac{20}{3} \rightarrow x = \frac{-20}{7} \rightarrow y = \frac{1}{7} \rightarrow xy = \frac{20}{7} \quad \checkmark$$

لا و لا عمود $m_{L'} = \frac{4}{3} \rightarrow L': y - \frac{4}{3}x - K = 0$

$OL' = OA = \sqrt{9+16} = 5$ شعاع

$OL' = \frac{|1-K|}{\sqrt{1+\frac{16}{9}}} = 5 \rightarrow K = \frac{25}{3} \rightarrow L': y = \frac{4}{3}x + \frac{25}{3}$