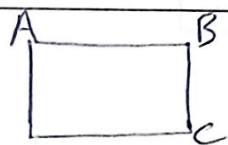


$$\frac{m-K}{\frac{4-2}{+}} = \frac{1}{2} \rightarrow m-K = -3 \rightarrow \overline{AB} = \sqrt{\left(\frac{4-2}{+}\right)^2 + (m-K)^2}$$

$$\overline{AB} = \sqrt{2^2 + (-3)^2} = \sqrt{13} \rightarrow \text{مسافت مربع} = (\sqrt{13})^2 = \boxed{13}$$



$$\overline{AB} = \sqrt{4^2 + 3^2} = \boxed{5} \quad \text{شیب خط } \overline{AB} \Rightarrow \frac{3}{-4}$$

$$\text{شیب خط } \overline{DC} = \frac{3}{4} \Rightarrow \frac{3}{-4x-1} \rightarrow x = \frac{3}{4} \quad \text{شیب خط } \overline{BC} = \frac{4}{3} = \frac{y-1}{x-3} \Rightarrow \frac{y-1}{-1/4} = \frac{4}{3} \Rightarrow y-1 = -\frac{4}{3}$$

$$-9 = 3y - 3 \rightarrow y = -1 \rightarrow \overline{BC} = \sqrt{\left(\frac{3}{4}\right)^2 + 1^2} = \boxed{\frac{5}{4}}$$

$$\text{محیط مستطیل} = 2 \times 5 + 2 \times \frac{5}{4} = \boxed{15}$$

$$\text{شیب خط} = \frac{-2m}{m^2-1} = \tan 40^\circ \rightarrow \frac{-2m}{m^2-1} = \sqrt{3} \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0$$

$$\text{اختلاف ریش ها} = \frac{\sqrt{\Delta}}{|a|} \rightarrow \frac{\sqrt{4+12}}{\sqrt{3}} = \boxed{\frac{4\sqrt{3}}{3}}$$

معادله خط

$$\overline{BC} \Rightarrow y = ax + b \rightarrow a = \frac{11-3}{4-3} = 8 \rightarrow 11 = 8 \times 4 + b \rightarrow b = -21$$

$$y = 8x - 21 \rightarrow \text{فاصله نقطه از خط} = \frac{|ax_0 + by_0 - c|}{\sqrt{a^2 + b^2}} \Rightarrow \text{فاصله نقطه } A \text{ از خط } \overline{BC} = \frac{|8 \times 1 - 21 - 9|}{\sqrt{8^2 + (-1)^2}} = \frac{20}{\sqrt{65}} \rightarrow AH = \frac{10}{\sqrt{65}} = \boxed{\frac{2\sqrt{65}}{13}}$$

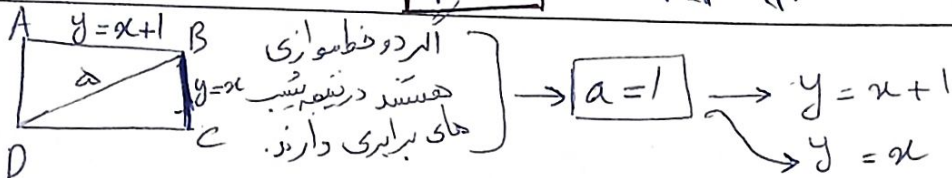
$$7x - 19 = -4x + 14 \rightarrow 11x = 33 \rightarrow x = 3, y = 1 \rightarrow B(3, 1)$$

$$\frac{|1 \times 4 - 3 \times 3 - 14|}{\sqrt{1^2 + 3^2}} = \boxed{\frac{22}{5}}$$

مختصات نقطه ی و $M = M(\alpha, \alpha)$ بین عمود از مبدأ
 و طول از مبدأ خط $= -\left(\frac{-9}{-\frac{3}{4}}\right) = -12$ شیب خط

$$\frac{-\alpha}{-\frac{3}{4} - \alpha} = -12 \rightarrow -\alpha = 9 + 12\alpha \Rightarrow 13\alpha = -9 \rightarrow \alpha = -\frac{9}{13}$$

$$\left\langle \frac{2\sqrt{2}}{3} \right\rangle \leftarrow \sqrt{\left(\frac{2}{3}\right)^2 + \left(\frac{2}{3}\right)^2} = \text{طول قطر مربع}$$



$$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} = \text{طول ضلع BC} \rightarrow \sqrt{2\alpha - \frac{1}{\alpha}} = \text{طول ضلع DC}$$

$$\text{مساحت مستطیل} = \sqrt{2\alpha} \times \frac{\sqrt{2}}{2} = \frac{\sqrt{4\alpha}}{2} = \left\langle \frac{\sqrt{\alpha}}{2} \right\rangle$$

شیب خط $L'' = \frac{-4}{-3} = \frac{4}{3} \rightarrow \text{شیب خط } L = \frac{3}{4}$

$$\alpha = \sqrt{\alpha^2 + \left(-\frac{3}{4}\alpha - \frac{2\alpha}{4}\right)^2} \leftarrow L = -\frac{3}{4}\alpha - \frac{2\alpha}{4}$$

$$\beta = \left(-\frac{3}{4}\alpha - \frac{2\alpha}{4}\right) - \frac{2\alpha}{4} = -1$$

$$\alpha\beta = V$$

$$\frac{b-a}{-\frac{1}{3} + \frac{1}{4}} = \sqrt{3} \rightarrow 4(b-a) = \sqrt{3} \rightarrow b-a = \frac{\sqrt{3}}{4}$$

$$\overline{AB} = \sqrt{(b-a)^2 + \left(-\frac{1}{3} + \frac{1}{4}\right)^2} = \text{طول پاره خط AB}$$

$$\overline{AB} = \frac{1}{3} \text{ و طول قطر مربع} = \sqrt{\left(\frac{1}{3}\right)^2 + \left(\frac{1}{3}\right)^2} = \left\langle \frac{\sqrt{2}}{3} \right\rangle$$

$$h = \frac{|1 - 0|}{\sqrt{3^2 + 1^2}} = \frac{1}{\sqrt{10}} \text{ و } h'' = \sqrt{9 - \frac{9}{10}} = \sqrt{\frac{81}{10}} = \frac{9}{\sqrt{10}}$$

$$S = \frac{9}{\sqrt{10}} \times \frac{1}{\sqrt{10}} \times \frac{1}{2} = \left\langle \frac{9}{20} \right\rangle$$