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IV. اقلية A، فـ، وـ، وـ

$$m = -1 = \frac{m-k}{\epsilon+r} = \frac{m-k}{\epsilon} \rightarrow m-k = -\epsilon$$

$$AB = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} \Rightarrow \sqrt{(\epsilon)^2 + (m-k)^2} = \sqrt{\epsilon^2 + 9} = \sqrt{10} \rightarrow$$

$$S = \sqrt{10} \times \sqrt{10} = 10$$

$$x_A + x_C = x_B + x_D \rightarrow -1 + x = 3 = 1 + x \rightarrow x = 3 \rightarrow C(\frac{3}{\epsilon}, y), D(-\frac{3}{\epsilon}, y+r)$$

$$CD = \sqrt{(\frac{3}{\epsilon} + \frac{3}{\epsilon})^2 + (y - y - r)^2} = \sqrt{\epsilon^2 + (-r)^2} = \sqrt{10} = 10$$

$$m_{CB} = \frac{\epsilon}{3} \rightarrow \frac{y-1}{-\frac{3}{\epsilon}} = \frac{\epsilon}{3} \rightarrow y = -1$$

$$AC = \sqrt{(\frac{3}{\epsilon})^2 + (y - \epsilon)^2} = BD = \sqrt{(-\frac{3}{\epsilon})^2 + (y+r)^2} \rightarrow \frac{9}{\epsilon^2} + (y - \epsilon)^2 = \frac{9}{\epsilon^2} + (y+r)^2 \rightarrow y = -1$$

$$|AB| = 10$$

$$|BC| = \frac{10}{\epsilon}$$

$$r(d + \frac{d}{\epsilon}) = 10$$

$$\rightarrow AC = \frac{10\epsilon}{\epsilon} \rightarrow \frac{10}{\epsilon} \cdot r(d + \frac{10}{\epsilon}) = 10$$

$$m = \tan \theta = \sqrt{3} \Rightarrow \frac{-r_m}{m^2 - 1} = \sqrt{3} \rightarrow \sqrt{3} m^2 - \sqrt{3} = -r_m \rightarrow \sqrt{3} m^2 + r_m - \sqrt{3} = 0$$

$$\Delta: \epsilon + 12 = 14 \rightarrow \frac{-r \pm \sqrt{14}}{2\sqrt{3}} \Rightarrow \frac{1}{\sqrt{3}} \text{ or } \frac{r}{\sqrt{3}}$$

$$\text{الميل: } \frac{1}{\sqrt{3}} - \left(-\frac{r}{\sqrt{3}}\right) = \frac{\epsilon}{\sqrt{3}} = \frac{\epsilon\sqrt{3}}{3}$$

$$BC: m = \frac{11-3}{\epsilon-3} = \frac{8}{\epsilon} = r \rightarrow y - 3 = r(x - 3) \rightarrow y - 2m + 3 = 0$$

$$AH: \frac{|-2+9+3|}{\sqrt{1+\epsilon}} = \frac{10}{\sqrt{10}} = r\sqrt{10}$$

$$AB: y = -2m + 3$$

$$BC: y = \frac{vm-19}{r} \Rightarrow -2m+3 = \frac{vm-19}{r} \rightarrow -\epsilon m + 18 = vm - 19 \rightarrow 11m = 37 \rightarrow m = 3, y = 1 \Rightarrow B(3, 1)$$

$$d = \frac{|-9+3-10|}{\sqrt{14+9}} = \frac{16}{5} \Rightarrow BH \text{ جـ}$$

s.a.m

$$A(-\frac{3}{4}, 0) \quad B(0, -4) \rightarrow m = \frac{4}{-\frac{3}{4}} = -\frac{16}{3} \rightarrow y+4 = -\frac{16}{3}x \rightarrow y = -\frac{16}{3}x - 4 \rightarrow m = y$$

$$\rightarrow -\frac{16}{3}x - 4 = x \rightarrow 9x = -4 \rightarrow x = -\frac{4}{9}$$

$$\text{فاصله} : \sqrt{(-\frac{4}{9})^2 + (-\frac{16}{9})^2} = \frac{4\sqrt{17}}{9}$$

$$m = 1 \rightarrow a = \frac{1}{a} \rightarrow a^2 = 1 \rightarrow a = 1, a = -1$$

$$a = 1 \rightarrow y - x = 0, y - x = 1 \rightarrow \text{نقطه } (1, 2) \text{ خط است}$$

$$a = -1 \rightarrow -y - x = -2, y + x = 1 \rightarrow \text{نقطه } (1, 2) \text{ خط است} \rightarrow a = 1$$

$$\text{فاصله} : \frac{|0+1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \rightarrow \sqrt{(\frac{\sqrt{2}}{2})^2 + (n)^2} = 2 \rightarrow \frac{1}{2} + n^2 = 4 \rightarrow n^2 = \frac{7}{2} \rightarrow n = \frac{\sqrt{14}}{2}$$

$$\rightarrow n = \frac{\sqrt{14}}{2} = \frac{\sqrt{2} \times \sqrt{7}}{2} \rightarrow \text{طول مستقیم}$$

$$S = \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{1}{2} = \frac{V}{2}$$

$$d: \frac{|1+0-1|}{\sqrt{1+9}} = \frac{0}{\sqrt{10}} = 0$$

$$\Rightarrow S = \frac{1}{2} \times \frac{\sqrt{10}}{1} \times \frac{\sqrt{10}}{1} = \frac{10}{2} = 5$$

$$\text{فاصله} : \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10}$$

$$AB^2 = AH^2 + BH^2 \rightarrow 10^2 = (\frac{3}{\sqrt{10}})^2 + BH^2 \rightarrow BH = \frac{9}{\sqrt{10}}$$

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

$$m = \sqrt{2} = \frac{a-b}{-\frac{1}{2} + \frac{1}{2}} \rightarrow a-b = -\frac{\sqrt{2}}{2} \quad d: \sqrt{(-\frac{1}{2})^2 + (\frac{\sqrt{2}}{2})^2} = \sqrt{\frac{1}{4} + \frac{2}{4}} = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2} \rightarrow \text{فاصله}$$

$$\text{فاصله} : \sqrt{(\frac{1}{2})^2 + (\frac{1}{2})^2} = \frac{\sqrt{2}}{2}$$

$$r: \sqrt{9+16} = \sqrt{25} = 5 \quad m_1 = -\frac{3}{4} \quad L: x = y + 4 = \frac{3}{4}(x+3) \rightarrow 4y = -3x - 12$$



$$L: x = y + 4 \rightarrow \sqrt{x'^2 + y'^2} = 5 \rightarrow x'^2 + y'^2 = 25 \rightarrow \frac{16}{9}y' + y' = 25$$

$$\rightarrow \frac{25}{9}y' = 25 \rightarrow y' = 3, x' = -1$$

$$L: x = y + 4 = \frac{3}{4}(x+3) \rightarrow 4y = 3x + 12$$

$$\frac{-3m - 12}{4} = \frac{3m + 12}{4} \rightarrow 9m - 12 = 3m + 12 \rightarrow 6m = 24 \rightarrow m = 4 \rightarrow y = -1 \rightarrow \begin{vmatrix} 1 & 4 \\ 4 & -1 \end{vmatrix} = -17$$

s.a.m

$$\Rightarrow xy = (-1)(-4) = 4$$