

$$\text{من } ABCD \Rightarrow AB \parallel CD \rightarrow \frac{FB}{FC} = \frac{AB}{EC} \rightarrow \frac{y-a}{y} = \frac{a}{\frac{r}{c}} \quad -y$$

$$\rightarrow \frac{1}{\frac{r}{c}} - \frac{ra}{c} = ya \rightarrow 1 - ra = rya \rightarrow a = \frac{1}{rv} = \frac{r}{r}$$

$$\text{مساحة} = a\sqrt{r} = \frac{r\sqrt{r}}{r}$$

$$y - ax = 1 \quad ay - x = a - 1$$

$$\text{من } |a| = 1 \Rightarrow a = \pm 1 \Rightarrow a^2 = 1$$

$$y = \frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{\sqrt{r}}{r}$$

$$a = 1 \rightarrow y - x = 1 \quad y - x = 0 \quad x$$

$$a = -1 \rightarrow y + x = 1 \quad y - x = r \quad x$$

$$\rightarrow d = \sqrt{x^2 + y^2} = \sqrt{\left(\frac{\sqrt{r}}{r}\right)^2 + x^2} = rd$$

$$\frac{d}{r} - \frac{1}{r} = \frac{rq}{r} \quad \frac{\sqrt{rq}}{\sqrt{r}} = \frac{\sqrt{r}}{\sqrt{r}}$$

$$s = \frac{r\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} = \frac{r\sqrt{r}}{r^2} = \frac{r}{r} = 1$$

$$\text{من } d = \frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{r\sqrt{r}}{1} \quad y = -r(x - 1) = -rx + r \quad -1$$

$$\begin{cases} y = -rx + r \\ y = \frac{1}{r}x - \frac{1}{r} \end{cases}$$

$$\begin{bmatrix} r & 1 & -r \\ 1 & 1 & -1 \end{bmatrix} \quad s = \frac{1}{r} \times r\sqrt{r} = \frac{r}{r} = 1$$

$$x = r\sqrt{r}, y = 0$$

$$\left(-\frac{1}{r}, b\right) \left(-\frac{1}{r}, a\right) \quad m = \frac{b-a}{-\frac{1}{r} + \frac{1}{r}} = \frac{b-a}{\frac{1}{r}} = r \quad -1$$

$$\rightarrow b - a = \frac{r}{r} \rightarrow \text{مساحة} = \sqrt{\left(-\frac{1}{r} - \frac{1}{r}\right)^2 + (b-a)^2}$$

$$\rightarrow \sqrt{\left(\frac{1}{r}\right)^2 + \left(\frac{r}{r}\right)^2} = \frac{1}{r} \quad \text{مساحة} = a\sqrt{r} = \frac{r\sqrt{r}}{r}$$

$$\text{من } |a| = r = \sqrt{r^2 + r^2} = \sqrt{2}r = d \quad m_{OA} = \frac{r}{r}, m_L = -\frac{r}{r}, m_{L'} = \frac{r}{r} \quad -1$$

$$OA \Rightarrow y = \frac{r}{r}x \quad L' \Rightarrow y = \frac{r}{r}x + c \quad L' \perp OA \Rightarrow \frac{c}{\sqrt{1 + \left(\frac{r}{r}\right)^2}} = \frac{rc}{d} = d \rightarrow c = \frac{rd}{r}$$

$$L' \Rightarrow y = \frac{r}{r}x + \frac{rd}{r}, L \Rightarrow y + r = -\frac{r}{r}(x + r) \rightarrow y = -\frac{r}{r}x - \frac{rd}{r} \rightarrow 17x_B + 11 = -2x_B - 14 \rightarrow 19x_B = -25$$

$$\rightarrow x_B = -\frac{25}{19}$$

$$y_B = -\frac{r}{r}x + \frac{rd}{r} = 1$$

$$x_B \times y_B = 1$$

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$$A(-2, k) \quad B(4, m) \quad m = -\frac{1}{p}$$

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

$$AB = \sqrt{(-4-2)^2 + (k-m)^2} = \sqrt{36+16} = \sqrt{52} \quad s = \sqrt{52} \times \sqrt{52} = 52$$

$$A(-1, 4) \quad B(3, 1) \quad C(x, y) \quad D(-1-x, y+2)$$

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

$$ABCD \rightarrow AB \perp BC \rightarrow m_{AB} = \frac{1-4}{3+1} = -\frac{3}{4} \quad m_{BC} = \frac{y-1}{\frac{5}{2}-3} = \frac{y-1}{\frac{5}{2}-3} \rightarrow y=1$$

$$C(\frac{5}{2}, 1) \quad D(-\frac{9}{2}, 2) \quad AB = \sqrt{2^2+3^2} = \sqrt{13}$$

$$BC = \sqrt{2^2+(\frac{5}{2}-3)^2} = \frac{5}{2}$$

$$P_{AB,BC} = 2(AB+BC) = 2(\sqrt{13} + \frac{5}{2}) = 2\sqrt{13} + 5$$

$$\tan \gamma = \sqrt{3} \rightarrow m \quad \frac{-2m}{m-1} = \sqrt{3} \rightarrow -2m = \sqrt{3}m^2 - \sqrt{3}$$

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

$$\text{انحراف} = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{4+12}}{(\sqrt{3})} = \frac{4\sqrt{3}}{\sqrt{3}}$$

$$A(1, 1) \quad B(3, 3) \quad C(7, 12)$$

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

$$d = \frac{|2(1)-9-3|}{\sqrt{2^2+1^2}} = \frac{10}{\sqrt{5}} = \frac{10\sqrt{5}}{5} = 2\sqrt{5}$$

$$AB: 2y + 4x = 10$$

$$BC: 2y - 4x = -11$$

$$11x = 30 \rightarrow x = \frac{30}{11}, y = 1$$

$$BH = \frac{|4y - 3x - 11|}{\sqrt{2^2+1^2}} = \frac{|4-9-11|}{\sqrt{5}} = \frac{16}{\sqrt{5}}$$