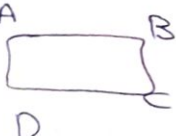


$$A(-2, k) \quad \frac{m-k}{k+2} = -\frac{1}{2} \Rightarrow m-k = -1$$

$$B(k, m)$$

$$a = -\frac{1}{2} \quad |AB| = \sqrt{(\Delta x)^2 + (\Delta y)^2} = \sqrt{(k+2)^2 + (-1)^2} = \sqrt{k^2 + 4k + 5}$$

$$S = (AB)^2 = 4 \times 5 = 20$$

A  B

$$2-1 = k-x \Rightarrow x = \frac{k}{2} = 1, 5$$

$$m_{AB} = \frac{1}{-2} \rightarrow m_{AD} = \frac{k}{2} = \frac{y-1}{-\frac{1}{2}} \Rightarrow -2y+2=k \Rightarrow y=-1$$

D

$$D(-2, 0, 2), C(1, 5, -1) \quad AB=5 \quad P=10+20=30$$

$$BC = \sqrt{\frac{9}{4} + 16} = \frac{5}{2}$$

$$ymx + (m^2-1)y = 2 \Rightarrow y = \frac{-2m}{m^2-1}x + \frac{2}{m^2-1} \quad \tan \theta_0 = \sqrt{3}$$

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

$$\Rightarrow \Delta = 4 + 12 = 16 \Rightarrow m = \frac{-2 \pm 4}{2\sqrt{3}} = \frac{-2+4}{2\sqrt{3}} = \frac{1}{\sqrt{3}} \quad m = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$m = -\frac{1}{\sqrt{3}} \Rightarrow \frac{\sqrt{3}}{3} - (-\sqrt{3}) = \frac{\sqrt{3} + 3\sqrt{3}}{3} = \frac{4\sqrt{3}}{3}$$

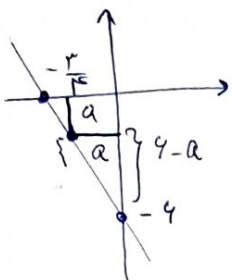
$$m_{BC} = \frac{11-10}{1-2} = 1 \quad BC: y-10 = 1(x-1) \Rightarrow x-y-9=0 \quad A = \begin{bmatrix} 1 \\ 9 \end{bmatrix}$$

$$AH = \frac{|1-9-9|}{\sqrt{1+(-1)^2}} = \frac{17}{\sqrt{2}} = \frac{17\sqrt{2}}{2}$$

$$\begin{cases} AB: y+2x=7 \\ AC: 4y-3x=14 \\ BC: 2y-5x=19 \end{cases} \Rightarrow \begin{cases} 2y-5x=19 \\ y+2x=7 \end{cases} \Rightarrow -11x = -42 \Rightarrow x = \frac{42}{11}$$

$$AC: -3x + 4y = 14$$

$$BH = \frac{|-4 + 8 - 14|}{5} = \frac{10}{5} = 2$$



$$\frac{4-a}{4} = \frac{a}{\frac{r}{K}} \Rightarrow \frac{4-a}{4} = \frac{Ka}{r} \Rightarrow 11a - Ka = Ka \Rightarrow a = \frac{r}{K}$$

$$\text{مساحة} = \frac{1}{2} \sqrt{r} = \frac{r\sqrt{r}}{K}$$

6

$$\frac{a}{1} = -\frac{1}{-a} \Rightarrow a^2 = 1 \Rightarrow \begin{cases} a=1 & y=x, y=x+1 \Rightarrow \left[\frac{1}{r} \right] \text{ مساحتها} \\ a=-1 & y=-x+r, y=-x+1 \end{cases}$$

$$= \frac{1}{\sqrt{r}} \quad d' = \sqrt{r\Delta - \frac{1}{r}} = \frac{V}{\sqrt{r}}$$

$$S = \frac{1}{\sqrt{r}} \times \frac{V}{\sqrt{r}} = r\Delta$$

7

$$\begin{aligned} x - ry - 1 &= 0 \\ Ax &= \frac{|K-0-1|}{\sqrt{(1)^2 + (-r)^2}} = \frac{r}{\sqrt{1+r^2}} \\ BA &= r \end{aligned} \quad \left. \begin{aligned} BH^2 &= 9 - \frac{9}{10} = \frac{81}{10} \Rightarrow BH = \frac{9}{\sqrt{10}} \\ S &= \frac{1}{r} \times \frac{r}{\sqrt{10}} \times \frac{9}{\sqrt{10}} = \frac{9}{10} \end{aligned} \right\}$$

8

$$m = \frac{a-b}{-\frac{1}{r} + \frac{1}{r}} = 4(b-a) \Rightarrow \sqrt{r} \quad b-a = \frac{\sqrt{r}}{4}$$

9

$$\sqrt{(\Delta x)^2 + (\Delta y)^2} = \sqrt{\frac{1}{r^2} + \frac{r}{r^2}} = \frac{1}{r} \quad \sqrt{r} \times \frac{1}{r} = \frac{\sqrt{r}}{r} \Rightarrow \text{مساحة}$$

$$\frac{K}{r}x + \frac{r\Delta}{r} = -\frac{K}{r}x - \frac{r\Delta}{r} \Rightarrow 14x + 100 = 9x - 10 \Rightarrow 5x = -110 \Rightarrow x = -22$$

$$r\Delta x = -10 \Rightarrow x = -\frac{10}{r}$$

$$y = -1$$

$$C = (-1, -1) \Rightarrow -x - 1 = 1$$

10