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$$y - k = -\frac{1}{r}(n + 2) \Rightarrow y = -\frac{1}{r}n + k - 1 \rightarrow k - 1 = m + 2$$

$$y - m = -\frac{1}{r}(n - 6) \Rightarrow y = -\frac{1}{r}n + m + 2 \quad \begin{matrix} \nearrow \\ k - m = 3 \end{matrix} \quad (2)$$

$$AB = \sqrt{(-2-6)^2 + \left(\frac{k-m}{r}\right)^2} = \sqrt{32+9} = \sqrt{40}$$

$$S = \sqrt{40} \times \sqrt{40} = 40$$

AB || CD

$$\Rightarrow \frac{6-1}{-1-2} = \frac{-r}{r+1} \Rightarrow 2n+1=6 \Rightarrow n=\frac{5}{2}$$

$$AB \perp BC \Rightarrow -\frac{r}{2} \times \frac{y-1}{-\frac{r}{2}} = -1 \Rightarrow \frac{y-1}{-\frac{r}{2}} = -1 \Rightarrow y = -1$$

$$C\left(\frac{r}{2}, -1\right) \quad \underline{b_2} = r(AB+BC) = r\left(0+\frac{5}{2}\right) = 10$$

$$\tan 60^\circ = \sqrt{3}$$

$$rmn + (m^2 - 1)y = r \Rightarrow y = \frac{-rm}{m^2 - 1}n + \frac{r}{m^2 - 1} \quad (3)$$

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

$$\Rightarrow m^2 + rm - 3 = 0 \Rightarrow \left(m + \frac{r}{\sqrt{3}}\right)(\sqrt{3}m - 1) = 0 \quad m = \frac{-r}{\sqrt{3}} \quad \text{یا} \quad \frac{1}{\sqrt{3}}$$

$$\frac{\sqrt{3}}{r} - (-\sqrt{3}) = \frac{\sqrt{3} + 2\sqrt{3}}{r} = \frac{3\sqrt{3}}{r} \quad m = \frac{1}{\sqrt{3}} \rightarrow \frac{\sqrt{3}}{r}$$

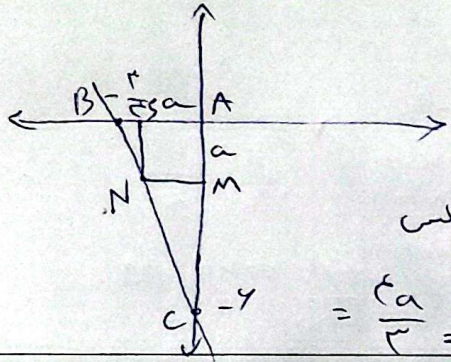
$$m_{BC} = \frac{1(-r)}{v-r} = 2$$

$$BC = y - r = r(n - 2) \Rightarrow BC = rn - y - r = 0 \quad A \mid q$$

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

$$\begin{cases} ry - vn = -19 \\ y + rn = v \end{cases} \Rightarrow B(3, 1), AC = 6y - rn - 19 = 0 \quad (4)$$

$$BH = \frac{|6 - 9 - 19|}{0} = \frac{22}{0} = \infty$$



$$ASMN \Rightarrow AB \parallel MN$$

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تقسيم

$$\frac{CM}{AC} = \frac{MN}{AB} \Rightarrow \frac{9-a}{9} = \frac{a}{9}$$

$$= \frac{9-a}{9} \Rightarrow 1 - \frac{a}{9} = \frac{a}{9} \Rightarrow 2a = 18 \Rightarrow a = 9$$

$$مقطع = a\sqrt{2} = \frac{9\sqrt{2}}{2}$$

$$y = \frac{1}{a}x + \frac{a-1}{a} \xrightarrow{\text{موازي}} \frac{1}{a} = a \Rightarrow a^2 = 1 \Rightarrow a = \pm 1$$

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$$a = 1 \quad y = x, y = x+1 \rightarrow \text{موازي}$$

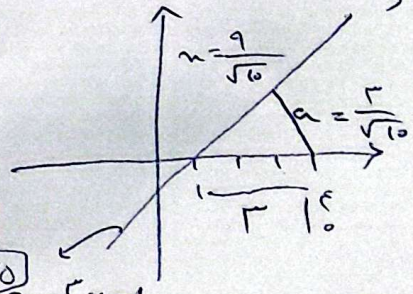
$$a = -1 \quad y = -x, y = -x+1 \rightarrow \text{موازي}$$

$$O = \sqrt{x^2 + y^2} \Rightarrow \left(\frac{\sqrt{2}}{2}\right)^2 + x^2 = 20 \Rightarrow x^2 = \frac{39}{2} \Rightarrow x = \pm \frac{\sqrt{78}}{2}$$

$$d = \frac{18-11}{\sqrt{1+9}} = \frac{7}{\sqrt{10}}$$

$$h = \sqrt{9 - \frac{49}{10}} = \sqrt{\frac{41}{10}} = \frac{\sqrt{410}}{10}$$

$$S = \frac{1}{2} \times \frac{7}{\sqrt{10}} \times \frac{\sqrt{410}}{10} = \frac{7\sqrt{41}}{20}$$



$$S = \frac{1}{2} \times \frac{7}{\sqrt{10}} \times \frac{\sqrt{410}}{10} = \frac{7\sqrt{41}}{20}$$

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$$x = \frac{b-a}{-\frac{1}{a} - (-\frac{1}{a})} = \frac{b-a}{\frac{1}{a}} = \sqrt{3} \Rightarrow b-a = \frac{\sqrt{3}}{2}$$

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

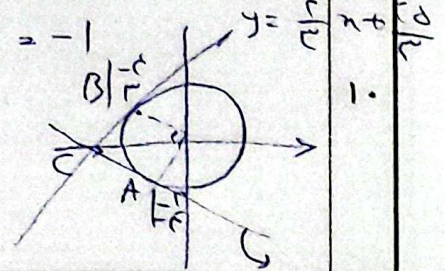
$$\frac{b}{a} = a\sqrt{2} = \frac{\sqrt{2}}{2}$$

$$\frac{r}{r}x + \frac{r}{r} = \frac{r}{r}x - \frac{r}{r} \Rightarrow 14x + 10 = -9x - 10$$

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$$\Rightarrow 23x = -20 \Rightarrow x = -\frac{20}{23} \Rightarrow y = -1$$

$$C = (-\frac{20}{23}, -1) \quad -\frac{20}{23}x - 1 = \frac{20}{23}$$



$$y = -\frac{r}{r}x - \frac{r}{r}$$