

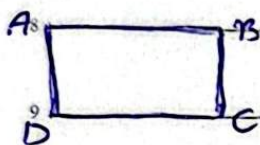
مسئله ۱۲ فرض A

$$y - k = -\frac{1}{r}(x + r) \text{ و } y - m = -\frac{1}{r}(x - \varepsilon) \quad (1)$$

$$y = -\frac{1}{r}x + k + 1 \text{ و } y = -\frac{1}{r}x + r + m \rightarrow k - m = r$$

$$AB = \sqrt{(k - (-r))^2 + (1 - m)^2} = \sqrt{r^2 + 9} \text{ و } r = \sqrt{a} \Rightarrow 8 = (r\sqrt{a})^2 \text{ و } (2a)$$

$$x_A = x_C \text{ و } x_B = x_D \rightarrow -1 + x = r - 1 - x \rightarrow x = \frac{r-1}{2} \quad *$$



$$m_{AB} = \frac{-1}{m_{BC}} \rightarrow m_{AB} = \frac{r}{-2} = -\frac{r}{2} \Rightarrow r = -2m_{AB} \text{ و } y = -1$$

$$AB = \sqrt{17 + 9} = 5 \text{ و } a$$

$$BC = \sqrt{9 + 4} = 5 \text{ و } a/r \rightarrow \frac{a}{r} = 1 \text{ و } a = r$$

$$r^2 m^2 + (m^2 - 1)y = r^2 \rightarrow y = \frac{-r^2 m}{m^2 - 1} \text{ و } \frac{r}{m^2 - 1} \quad (2)$$

$$m^2 r^2 - r^2 = -r^2 m \rightarrow m^2 r^2 - r^2 + r^2 m = 0$$

$$\frac{\sqrt{a}}{|a|} = \frac{\sqrt{\varepsilon - (\varepsilon + r^2 - 1/r^2)}}{r} = \frac{r}{r^2}$$



$$BC \rightarrow m_{BC} = \frac{1}{2} \rightarrow y = \frac{1}{2}(x-2) \quad (1)$$

$$\rightarrow y = \frac{1}{2}x - 1 \rightarrow x = 2y + 2$$

$$BC \text{ د } \frac{|x(1) - 2 - 1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} \rightarrow \boxed{x = 2y + 2}$$

ب نقطه

$$2y - 1 = -19 \rightarrow y = -9 \rightarrow x = -16 \quad (2)$$

$$\rightarrow -2x + 1 = -19 \rightarrow x = 10 \rightarrow y = 9$$

BC و AB د تقاطع

$$\rightarrow x = 10 \rightarrow y = 9$$

$$AC \text{ د } \frac{|x(1) - 2 - 1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} \rightarrow \boxed{x = 2y + 2}$$

$$ay - x = a - 1 \rightarrow y = \frac{x+a-1}{a} \quad (3)$$

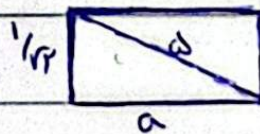
$$\frac{1}{a} \rightarrow a \rightarrow a \pm 1$$

$$y = a - 1 \rightarrow y = a + 1$$

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

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

$$\frac{|c' - c|}{\sqrt{a^2 + b^2}} = \frac{1}{\sqrt{2}}$$



$$\rightarrow a^2 = 2 - \frac{1}{2} \rightarrow a = \frac{\sqrt{3}}{2} \rightarrow \boxed{a = \frac{\sqrt{3}}{2}}$$



SUBJECT:

Year:

Month:

Day:

Page : ()

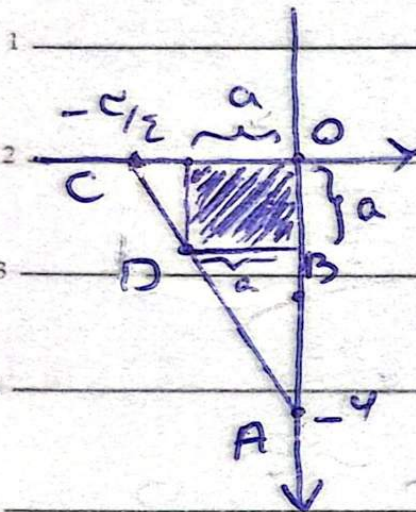
(4) مربع ← اقلع باهم برابرند. $BD = OB$

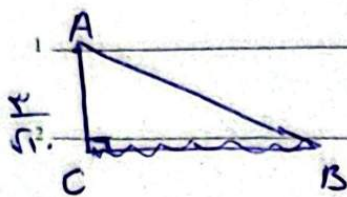
$$\text{مربع: } \frac{AB}{OA} = \frac{BD}{OC}$$

$$\frac{4-a}{4} = \frac{a}{\frac{1}{2}\epsilon} \rightarrow 4a = \frac{2a}{\epsilon}$$

$$\frac{2a}{\epsilon} = \frac{a}{\frac{1}{2}} \rightarrow a = \frac{\epsilon}{2} \quad \text{مربع}$$

$$\frac{\epsilon}{2} \times \sqrt{2} = \frac{\epsilon\sqrt{2}}{2}$$





(A) فرض کریں کہ A نقطہ (1, 1) ہے۔ مقررہ کریم کے ساتھ اضافی کریم

$$x - 3y = 1 \rightarrow 3y = x - 1 \rightarrow y = \frac{x-1}{3}$$

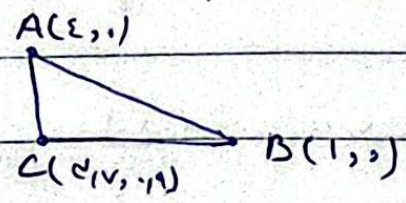
4 d s $\frac{|1 - 3(1) - 1|}{\sqrt{1+9}}$ s $\frac{3}{\sqrt{10}}$ $AC \perp BC \Rightarrow m_{AC} = -\frac{3}{1}$

6 $\rightarrow y = 0 \Rightarrow 3(x-1) \rightarrow y = -3x + 3$
 AC, BC کے لیے: $C \rightarrow -3x + 3 = \frac{1}{3}x - \frac{1}{3} \rightarrow 9x + 3y = x - 1$

8 $-10x = 3y \rightarrow x = \frac{3}{10}y$

10 فرض کریں کہ A نقطہ (1, 1) ہے۔ مقررہ کریم کے ساتھ اضافی کریم

10 $0 \leq \frac{x}{2} - \frac{1}{2} \Rightarrow x \leq 1$



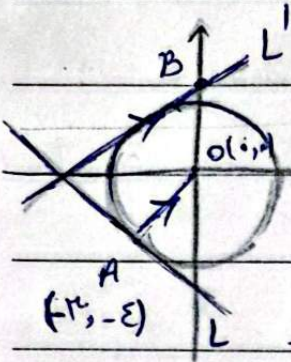
13 $\rightarrow$ کریم: $\left| \begin{array}{ccc|c} 4 & 0 & 1 & 1 \\ 3/10 & -1/10 & 1 & 1/10 \\ 1 & 0 & 1 & 1 \end{array} \right| \rightarrow \frac{1}{10}(3/4 - 1/9) = 1/10 \times 2/3 = 1/15$

16 Δ $\frac{a-b}{-1/4} \rightarrow a-b = \frac{1/4}{1/4}$ (9)

16 Δ $\sqrt{\frac{1}{36} + \frac{3}{36}} = \frac{2}{4} = \frac{1}{2}$ مربع

20 $\left[\frac{3/2}{2} \right]$ $\rightarrow$ مربع $\rightarrow$ مربع $\rightarrow$ مربع





۱۱. خط عمود بر L است L'

۱۲. دایم شعاع هر خط عمود نسبت به عمود OA است $OA \perp r \leq \sqrt{9+16} \leq 5$

فاصله L از O $A(3, -4)$

خط L' شعاع هر دو بر L عمود است $OA \parallel L'$ و شیب OA برابر $\frac{4}{3}$

$$L \perp OA \Rightarrow \text{شیب } L = -\frac{3}{4} \quad \text{شیب } OA = \frac{4}{3}$$

$$L: y + 4 = -\frac{3}{4}(x + 3) \rightarrow y = -\frac{3}{4}x - \frac{25}{4}$$

۱۳. خط L' نسبت به B عمود و شعاع هر دو بر L عمود است برای پیدا کردنش:

$$L: y = \frac{4}{3}x + b \rightarrow d \leq \frac{b}{\sqrt{1+\frac{16}{9}}} \leq 5 \rightarrow \frac{b}{5/4} \leq 5 \rightarrow b \leq 25/4$$

$$\Rightarrow L': y = \frac{4}{3}x + 25/4$$

$$\frac{4}{3}x + \frac{25}{4} = -\frac{3}{4}x - \frac{25}{4} \rightarrow \frac{7}{4}x = -\frac{50}{4} \rightarrow x = -\frac{50}{7} \rightarrow x = -7 \frac{1}{7}, y = -1$$

$$25x = -175 \rightarrow x = -7, y = -1 \rightarrow x \cdot y = 7$$