

الف) $m = \frac{dy}{dx} \Rightarrow \frac{y-(-1)}{x-\omega} \Rightarrow \frac{y+1}{x-\omega} \Rightarrow -x+by \Rightarrow a \neq \omega \Rightarrow -14+bs^2 \Rightarrow b \leq 11 \Rightarrow -x+11cy$

ب) $xy+4m+1=0 \parallel xy+4m+c=0 \Rightarrow a \neq \omega \Rightarrow y=2 \Rightarrow 14+4+c=0 \Rightarrow c=-18 \Rightarrow xy+4m+17=0$

ج) $x+xy=1 \Rightarrow xy=1-x \Rightarrow y=\frac{1-x}{x} \Rightarrow y=\frac{1}{x}-1 \perp$ $3m+by \Rightarrow a \neq \omega \Rightarrow 14+bs^2 \Rightarrow \frac{14}{b} = 10 \Rightarrow b=1.4$

د) $\sqrt{ax^2-2x} = \sqrt{y} \Rightarrow \sqrt{14+bs^2} \Rightarrow a \neq \omega \Rightarrow (\sqrt{14+bs^2})^2 = y^2 \Rightarrow b \leq 1.4 \sqrt{14} \Rightarrow \sqrt{14} + 1.4 \sqrt{14} = y$

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الف) $\sqrt{(x_1-x_2)^2+(y_1-y_2)^2} \Rightarrow A/\sqrt{p} \text{ و } B/\sqrt{q} \Rightarrow \sqrt{(x-(-1))^2+(y-1)^2} \Rightarrow \sqrt{9+14} \Rightarrow \omega$

ب) $\frac{|ax_0+by_0+c|}{\sqrt{a^2+b^2}} \Rightarrow \frac{|y(1)+x(1)-1|}{\sqrt{1+14}} \Rightarrow \frac{10}{\omega} = 1$

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الف) $\begin{cases} ax_0+by_0=c \\ ax_1+by_1=c' \end{cases} \Rightarrow ax_0by_0 = \frac{c+c'}{2} \Rightarrow \begin{cases} 8x+4y=11 \\ 8x+4y=14 \end{cases} \Rightarrow 8x+4y=12.5 \Rightarrow 8x+4y-12.5=0$

ب) $\frac{|c-c'|}{\sqrt{a^2+b^2}} \Rightarrow \frac{|-11-(-14)|}{\sqrt{(8)^2+(4)^2}} \Rightarrow \frac{3}{\sqrt{14+4}} \Rightarrow \frac{1}{\sqrt{14}} \Rightarrow \frac{14}{\sqrt{14}}$

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$\frac{|ax_0+by_0-c|}{\sqrt{a^2+b^2}} = \frac{|ax_1+by_1-c'|}{\sqrt{a^2+b^2}} \Rightarrow \frac{|14-2y-1|}{\sqrt{1+4}} = \frac{|14+1y-1|}{\sqrt{1+4}}$

$\Rightarrow 14-2y-1 = 14+y-1 \Rightarrow 14-2y+1=0$

$14-2y-1 = -14+y+1 \Rightarrow 28+y-1=0$

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$14x+1y=1$ و $14x+1y=14 \Rightarrow \tan \alpha = \left| \frac{m-m'}{1+mm'} \right| \Rightarrow \left| \frac{-14-1}{1+(-14)} \right| \Rightarrow \left| \frac{-15}{-13} \right| \Rightarrow \tan \alpha = 1$

$\Rightarrow \alpha = \frac{\pi}{4}$

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$$a) |A|_P^P \quad |B|_{-P}^P \Rightarrow \sqrt{(m_A - m_B)^2 + (y_A - y_B)^2} \Rightarrow \sqrt{4 + 36} \Rightarrow \sqrt{40} = 10$$

$$b) \left(\frac{m_A + m_B}{P}, \frac{y_A + y_B}{P} \right) \Rightarrow \left(\frac{-2 + 10}{P}, \frac{(-1 + 1)}{P} \right) \Rightarrow (-1, 1)$$

$$a) |A|_{-10}^{-10} \quad |B|_P^P \quad |C|_P^P \Rightarrow \frac{-10 + (-1) + 10}{P} \Rightarrow \frac{-1 + 10}{P} = P \quad \text{و} \quad \frac{-10 + 1 + 1}{P} = \frac{P}{P} = 1 \Rightarrow D(P, P)$$

$$b) \delta = \frac{1}{P} \begin{vmatrix} 10 & 1 & 1 \\ -1 & 1 & 1 \\ -10 & -1 & 1 \end{vmatrix} = -10 - 19 - 1 - 9 + 10 + 10 = \frac{88}{P} = PP$$

$$a) -y = \frac{Pm+1}{Em-P} \quad b) y = \frac{-Pm+1}{-Em-P}$$

$$c) y = \frac{Pm+1}{Em-P} \Rightarrow Eym - Py = Pm+1 \Rightarrow Eym - Pm = 1 + Py \Rightarrow m = \frac{1+Py}{Eg-P} \Rightarrow y = \frac{1+Pm}{Em-P}$$

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$$d) a \rightarrow -y \Rightarrow -y = \frac{-Pm+1}{-Em-P} \Rightarrow Em + Pm = -y + 1 \Rightarrow Em + y = 1 - Pm \Rightarrow y = \frac{1-Pm}{Em+P}$$

$$a) |A|_P^P \Rightarrow a' = m-P \quad y' = y+P \Rightarrow a = m+P, y = y'-P \Rightarrow \frac{P(m+P)+1}{(m+P)-P} = y'-P \Rightarrow \frac{Pm'+1}{m'-1} = y'-P$$

$$\frac{Pm'+1}{m'-1} = y' \Rightarrow \frac{a'+1}{m'-1} = y'$$

$$b) m' = m-P, y' = y+P \Rightarrow m = m'+P, y = y'-P \Rightarrow \frac{P(m'+P)+1}{m'+P-P} = y'-P \Rightarrow \frac{Pm'+1}{m'} = y'-P$$

$$\Rightarrow \frac{y'}{m'} = y'$$

$$a) \begin{cases} Pm + Ey = P \\ m - 2y = 1 \end{cases} \Rightarrow m = \frac{P+2y}{1} \Rightarrow P(P+2y) + Ey = P \Rightarrow P^2 + 2Py + Ey = P \Rightarrow 2Py + Ey = P - P^2 \Rightarrow y = \frac{P(1-P)}{2P+1} \Rightarrow m = \frac{P+2 \cdot \frac{P(1-P)}{2P+1}}{1} = \frac{P(1+P)}{2P+1}$$

$$b) m = -\frac{\begin{vmatrix} E & P \\ 1 & -2 \end{vmatrix}}{\begin{vmatrix} P & E \\ 1 & -2 \end{vmatrix}} \Rightarrow -\frac{1E}{-19} = \frac{1E}{19}$$

از طریق کایداره
به نتیجه رسیدیم
 $y = -\frac{1}{19}$