

سراوان ←

اند (ب) $(-2, 5)$ $\rightarrow \frac{y - (-2)}{x - 5} = \frac{5 - (-2)}{-1} = -7$
 $\rightarrow y = -7x + 11$

ب) $2y + 3x = -1$
 $-y = -3x - \frac{1}{2} \rightarrow a = a' = -3$
 $\rightarrow y = -3x + 13$

ج) $x + 3y = 1$
 $\rightarrow y = -\frac{1}{3}x + \frac{1}{3}$ $a' = 3x$
 $\rightarrow y = 3x - 17$

د) $\tan \frac{\pi}{3} \rightarrow \tan \theta = \sqrt{3}$
 $\rightarrow y = \sqrt{3}x - 2\sqrt{3} - 2$

سراوان ←

اند (ب) $(2, 3)$ $(-1, 7)$
 $\text{فاصله نقطه} = \sqrt{(x - x_A)^2 + (y - y_A)^2}$
 $\rightarrow \sqrt{(7 - 3)^2 + (2 - (-1))^2} = \sqrt{20}$

ب) $3x + 4y = 3$ $\rightarrow \frac{|ax + by + c|}{\sqrt{a^2 + b^2}} = \frac{|3x + 4y - 3|}{\sqrt{25}}$
 $\rightarrow \frac{|4 + 12 - 3|}{5} = \frac{13}{5} = \sqrt{5}$

سراوان ← (الف)
 $c' = \frac{c' + c}{2} \rightarrow \frac{1 - 11 + 11}{2} = \frac{1}{2}$
 $\rightarrow 6x + 4y + 10 = 0$

$$\{x+4y-1, 3x+5y-12 \rightarrow \frac{-12+11}{5} = \frac{-1}{5} \quad (ب)$$

$$\frac{|3x-2y-1|}{\sqrt{13}} = \frac{|2x+3y-2|}{\sqrt{13}} \rightarrow |3x-2y-1| = |2x+3y-2| \leftarrow \text{سوال}$$

$$\rightarrow 3x-2y-1 = 2x+3y-2 \rightarrow 3x-2y-1 = -2x-3y+2$$

$$\omega y - x - 2 = 0 \quad (1)$$

$$3x-2y-1 = -2x-3y+2$$

$$\omega x + y - 2 = 0 \quad (2)$$

$$\tan \alpha = \frac{|m-m'|}{1+m m'} \rightarrow \frac{|3-(-2)|}{|1-6|} = \frac{5}{5} = 1 \leftarrow \text{سوال}$$

$$\alpha = 135^\circ \leq 90^\circ$$

$$(-2, 1)(3, -2) \rightarrow \sqrt{(1)^2 + (4)^2} = \frac{5}{5} \leftarrow \text{سوال}$$

$$\leftarrow \text{سوال}$$

(ب)

$$x' = \frac{x_A + x_B}{2} \quad y' = \frac{y_A + y_B}{2} \rightarrow \frac{-2}{2} = -1 \quad \frac{1-2}{2} = -\frac{1}{2}$$

$$\rightarrow \left(\frac{1}{2}, 1 \right)$$

$$\begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} \rightarrow \frac{x_A + x_B + x_C}{3} = \frac{-10 - 2 + 3}{3} = \frac{-9}{3} = -3 \leftarrow \text{سوال}$$

$$\frac{y_A + y_B + y_C}{3} = \frac{-13 + 1 + 3}{3} = \frac{-9}{3} = -3$$

$$(-3, -3)$$

$$\begin{vmatrix} -10 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix}$$

$$\frac{1}{3} (9 - 10 + 24 + 30 + 39 + 2) = \frac{71}{3}$$

(ب)

$$y = \frac{2x+1}{x-3} \rightarrow -y = \frac{2x+1}{x-3} \rightarrow -y = \frac{2x+1}{x-3} \quad (\text{سراش } \leftarrow \text{اذا})$$

$$y = \frac{-2x-1}{-x-3} \quad (\text{ب})$$

$$x = \frac{2y+1}{y-3} \rightarrow 2yx - 3x = 2y+1 \rightarrow 2yx - 2y = 3x+1 \quad (\text{ج})$$

$$\rightarrow 2y(2x-1) = 3x+1 \rightarrow 2y = \frac{3x+1}{2x-1} \rightarrow \frac{3x+1}{2x-1}$$

$$-x = \frac{-2y+1}{-y-3} \rightarrow 2yx + 3x = -2y+1 \rightarrow 2yx + 2y = 1-3x \quad (\text{د})$$

$$2y(x+1) = 1-3x \rightarrow 2y = \frac{1-3x}{x+1}$$

$$\rightarrow \frac{1-3x}{2x+2}$$

$$x' = x-3 \quad y' = y+3 \quad y = \frac{2x+1}{x-3} \quad (\text{سراش } \leftarrow \text{اذا})$$

$$L x'+3 = x \quad L y'-3 = y \rightarrow y'-3 = \frac{2x'+1}{x'-1}$$

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

$$x' = x-3 \Rightarrow x'+3 = x \rightarrow y'+3 = \frac{2x'+1}{x'-1} = y' = \frac{y}{x'} \quad (\text{ب})$$

$$y' = y-3 \Rightarrow y'+3 = y \rightarrow y'+3 = \frac{2x'+1}{x'-1} = y' = \frac{y}{x'}$$

$$\begin{cases} 2x+1y=1 \\ (x-2y=1) \times 3 \end{cases} \rightarrow \begin{cases} 2x+1y=1 \\ -3x+6y=3 \end{cases} \quad (\text{سراش } \leftarrow \text{اذا})$$

$$\rightarrow 19y = -1 \rightarrow y = -\frac{1}{19}$$

$$x = -\frac{2}{19} \rightarrow x = -\frac{2}{19}$$

$$y = -\frac{1}{19} \rightarrow \boxed{\frac{1}{19}}$$

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