

۲۰

شماره تلفن = ۱۵

سوال (۱)

$$l_{P_1 P_2} (P_1, P_2)$$

$$m = \frac{P_1 \rightarrow P_2}{-1 \rightarrow P_2 - P_1} = \frac{-4x + 18}{-1} \Rightarrow y = -4x + 18 \quad \Leftarrow \quad \frac{5}{-2} \quad \text{(الف)}$$

(ب)

$$2y + 4x = -1 \Rightarrow m = \frac{-4}{2} = -2 \Rightarrow y = -2x + 14$$

$$x + 3y = 1 \Rightarrow m_{d_1} = -\frac{1}{3} \Rightarrow m_{d_2} = 3 \Rightarrow y = 3x - 1$$

(ج)

$$\frac{\pi}{3} \Rightarrow \tan \frac{\pi}{3} = m \Rightarrow \frac{\sqrt{3}}{1} \Rightarrow y = \sqrt{3}x - 2\sqrt{3} + 2$$

(د)

سوال (۲) نقای ۱۲

$$(-1, 7) \Rightarrow \sqrt{3^2 + 4^2} = \sqrt{5^2} \Rightarrow \textcircled{5}$$

(الف)

$$\frac{|9 + 12 - 3|}{\sqrt{3^2 + 4^2}} = \frac{18}{5} = \textcircled{3}$$

(ب)

سوال (۳)

$$ax + by = \frac{C+C'}{2} \Rightarrow \begin{cases} 2x + 3y = 4 \\ 2x + 3y = 6 \end{cases} \Rightarrow 2x + 3y = 5$$

(ج)

$$\frac{|C-C'|}{\sqrt{4+9}} = \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$$

سوال (۴)

خاصیت شیب ساز = از ۲ ضلع زاویه به یک فاصله است = ۲ خط به یک فاصله باشند

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

(ج)

$$\begin{aligned} 3x - 2y - 1 &= 2x + 3y - 3 \Rightarrow x - 5y + 2 = 0 \\ 3x - 2y - 1 &= -(2x + 3y - 3) \Rightarrow 5x + y - 4 = 0 \end{aligned}$$

سوال (۵)

$$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right|$$

$$m_1 = 2 \quad m_2 = -3$$

(ج)

$$\tan \alpha = \frac{5}{1-6} = -1 \Rightarrow \textcircled{1} \Rightarrow \tan \alpha = 1 \Rightarrow \alpha = 45^\circ$$

زاویه تند ✓
زاویه باز = 135°

$$\begin{aligned} 1) \quad & \begin{aligned} & 3 + \omega = 1 \Rightarrow \\ & 4 - 2 = 9 \end{aligned} \Rightarrow \sqrt{1^2 + 9^2} = \sqrt{10} \Rightarrow 10 \end{aligned}$$

سوال 4 (الف)
مستطیل
ب

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) \Rightarrow (-1, 1)$$

$$\left(\frac{-10 - 2 + 3}{3}, \frac{-13 + 3 + 1}{3} \right) \Rightarrow (-3, -3) \quad \text{سوال 2 (الف)}$$

$$\begin{bmatrix} -10 & -13 & 1 \\ -13 & 3 & 1 \\ 3 & 1 & 1 \end{bmatrix} \Rightarrow \begin{aligned} & -30 - 39 - 2 - (9 - 10 + 19) \\ & = -94 = 48 \Rightarrow \div 2 = 24 \end{aligned}$$

$$-y = \frac{2x+1}{2x-3} \quad \text{سوال 8 (الف)}$$

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

$$x = \frac{2y+1}{2y-3} \Rightarrow \frac{2y+1}{2y-3} \quad \text{ج}$$

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

$$x' + 2 = x$$

$$x' = x - 2$$

$$y' = y + 3$$

$$\Rightarrow y' - 3 = \frac{2x' + 1}{x' - 1} \Rightarrow y' = \frac{2x' + 1}{x' - 1} \quad \text{سوال 9 (الف)}$$

$$x' = x - 3$$

$$y' = y - 2$$

$$\left. \begin{aligned} x' &= x - 3 \\ y' &= y - 2 \end{aligned} \right\} \Rightarrow y' + 2 = \frac{2x' + 1}{x' - 1} \Rightarrow y' = \frac{2x' + 1}{x' - 1} \quad \text{ب}$$

$$3x + 4y = 2$$

$$x - 5y = 1 \Rightarrow x = 1 + 5y$$

$$3x - 15y = 3$$

$$\begin{aligned} & -\frac{1}{19} \quad \frac{3}{19} \\ & 3x + 4y = 2 \Rightarrow 19y = -1 \Rightarrow y = \frac{-1}{19} \end{aligned}$$

$$x = \frac{1}{19}$$

$$x = \frac{1 + 10 = 11}{-19}$$

$$y = \frac{3 - 1 = 2}{-19}$$

$$\Rightarrow y = \frac{-1}{19} \quad x = \frac{1}{19}$$

$$-10 - 2$$