

$$m = \frac{2 - (-2)}{1 - \omega} = -2$$

$$y = -2x + b \xrightarrow{x=1} 2 = -1 + b \quad b = 3 \quad \text{1- (الف)}$$

$$y = -2x + 3$$

$$m = -2 \rightarrow y = -2x + b \xrightarrow{x=1} 2 = -1 + b \quad b = 3 \rightarrow y = -2x + 3 \quad \text{(ب)}$$

$$m = 3 \rightarrow y = 3x + b \xrightarrow{x=1} 2 = 3 + b \quad b = -1 \rightarrow y = 3x - 1 \quad \text{(ج)}$$

$$m = \tan \alpha = \tan \frac{\pi}{3} = \sqrt{3} \rightarrow y = \sqrt{3}x + b \xrightarrow{x=1} 1 + b = 2 \quad b = 1 \rightarrow y = \sqrt{3}x + 1 \quad \text{(د)}$$

$$|d| = \sqrt{(2 - (-1))^2 + (2 - \sqrt{3})^2} = \sqrt{9 + 1} = \sqrt{10} \quad \text{(هـ - الف)}$$

$$\text{فاصله} = \frac{|3 \times 2 + 1 \times 3 - 3|}{\omega} = \frac{10}{2} = 5 \quad \text{(ب)}$$

٣- الف) خط وسطاً با دو نقطهٔ داده شده و عمود بر خط (د) می‌توانیم بدست آوریم.

$$\begin{aligned} & \rightarrow x + y = 1 \\ & 2x + y = 1 \rightarrow x + y = 1/2 \\ & \rightarrow x + y = 1 \end{aligned} \quad] C'' = \frac{C + C'}{2} = \frac{1 + 1/2}{2} = 3/4$$

$$\text{فاصله} = \frac{|C - C'|}{\sqrt{1^2 + 1^2}} = \frac{1/2}{\sqrt{2}} = \frac{1}{2\sqrt{2}} = \frac{\sqrt{2}}{4} \quad \text{(ب)}$$

د- فرض کنیم دو خط از دو نقطهٔ داده شده می‌گذرد.

$$\frac{|3x - y - 1|}{\sqrt{10}} = \frac{|2x + y - 3|}{\sqrt{10}}$$

$$\begin{aligned} 3x - y > 1 & \rightarrow 2x + y - 3 \rightarrow y = -2x + 5 \\ 3x - y < 1 & \rightarrow 2x + y - 3 \rightarrow y = -2x + 1 \end{aligned}$$

$$\tan \alpha = \left| \frac{m-m'}{1+mm'} \right| = \left| \frac{2-(-3)}{1-6} \right| = 1 \quad \alpha = 45^\circ$$

$$m = 2, m' = -3$$

$$d = \sqrt{(2-(-3))^2 + (-2-2)^2} = \sqrt{4^2 + 4^2} = 4\sqrt{2}$$

$$m = \left| \frac{\frac{2-3}{1-6}}{\frac{2-3}{1-6}} \right| = \left| \frac{-1}{1} \right| = 1$$

$$x_m = \frac{m_1 + m_2 + m_3}{3} = \frac{-9}{3} = -3$$

$$y_m = \frac{y_1 + y_2 + y_3}{3} = \frac{-9}{3} = -3$$

$$S_2 = \frac{1}{3} \begin{vmatrix} -1 & -2 & 3 \\ -13 & 3 & 1 \\ 1 & 1 & 1 \end{vmatrix} = \frac{1}{3} \left((-1) \times 3 \times 1 + (-2)(1)(1) + (-13) \times 1 \times 3 - 3 \times 1 \times 1 - (-1) \times 1 \times 1 - (-2)(1)(-13) \right)$$

$$= \frac{1}{3} (-3 - 2 - 39 - 9 + 1 - 26) = -28$$

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

$$n \rightarrow -n \quad y = \frac{-2n-1}{-2n-3}$$

$$n \rightarrow y \quad y = \frac{2y+1}{2y-3} \quad y = \frac{-2n-1}{2n-3} = \frac{2n+1}{2n-3}$$

$$n \rightarrow y \quad y \rightarrow -n \quad -n = \frac{-2y+1}{-2y-3} \rightarrow y = \frac{2n-1}{2n+3} = \frac{2n+1}{2n+3}$$

$$n' = n-2 \quad n = n'+2$$

$$y' = y+3 \quad y = y'-3$$

$$y' = 2 = \frac{n'+2+1}{n'+3-3} = \frac{n'+3}{n'-1}$$

$$y' = \frac{n'+2+1}{n'+3-3} = \frac{n'+3}{n'-1}$$

$$(n) = 9$$

$$x' = x - r$$

$$x = x' + r$$

$$y' = y - r$$

$$y = y' + r$$

$$y' + r = \frac{x' + 4 + 1}{x' + r - r} = \frac{x' + 5}{x'}$$

$$y' = \frac{x' + 5 - x'}{x'} = \frac{5}{x'}$$

$$\begin{cases} x' + y' = 1 \\ x - y = 1 \end{cases} \xrightarrow{x=r} \begin{cases} x' + y' = 1 \\ x' - 1 - y' = 1 \end{cases} \Rightarrow 19y' = -1 \Rightarrow y' = -\frac{1}{19}$$

$$x' + y' = 1 \Rightarrow x' = 1 - y' = 1 + \frac{1}{19} = \frac{20}{19}$$

$$x = x' + r = \frac{20}{19} + 1 = \frac{39}{19}$$

$$x = -\frac{r + 1}{-19 - 1} = \frac{-1}{-20} = \frac{1}{20}$$

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