

$$\begin{cases} x_n + y_n = r \\ r(x - ay) = 1 \end{cases} \quad (1)$$

روش حذف

$$\begin{array}{r} x_n + y_n = r \\ - x_n + 12y_n = r \end{array}$$

$$19y_n = 1$$

$$y_n = -\frac{1}{19}$$

$$x_n - a\left(-\frac{1}{19}\right) = 1$$

$$x_n + \frac{a}{19} = 1 \Rightarrow x_n = \frac{19}{19} - \frac{a}{19} = \frac{14}{19}$$

(2)

روش دلتا

$$x_n = - \frac{\begin{vmatrix} b & c \\ b' & c' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}}$$

$$y_n = \frac{\begin{vmatrix} a & c \\ a' & c' \end{vmatrix}}{\begin{vmatrix} a & b \\ a' & b' \end{vmatrix}}$$

$$\begin{array}{r} \begin{vmatrix} r & r \\ -a & 1 \end{vmatrix} \\ \hline \begin{vmatrix} r & r \\ 1 & -a \end{vmatrix} \end{array}$$

$$\begin{array}{r} \begin{vmatrix} r & r \\ 1 & 1 \end{vmatrix} \\ \hline \begin{vmatrix} r & r \\ 1 & -a \end{vmatrix} \end{array}$$

$$\begin{array}{r} \begin{vmatrix} +r & +1 \\ -1a & +r \end{vmatrix} \\ \hline -19 \end{array}$$

$$\begin{array}{r} \begin{vmatrix} r - r \\ -1a - r \end{vmatrix} \\ \hline -19 \end{array}$$

RADO

$$\rightarrow \left(+\frac{14}{19}, -\frac{1}{19} \right)$$

نکات مهم

$$1: m = \frac{-r-r}{a-r} = \frac{-r}{1} = -r$$

1, 17, 5 (1)

$$y = ax + b \rightarrow r = -r \cdot \frac{x}{r} + b \rightarrow r = -14 + b \rightarrow b = 14$$

$$y = -r \cdot x + 14$$

$$ry = -4x - 1 \rightarrow y = -\frac{4}{r}x - \frac{1}{r}$$

$$r = -r(r) + b \rightarrow y = -\frac{4}{r}x + 14$$

$$ry + 4x = -1$$

$$x + ry = 1 \rightarrow ry = -x + 1 \rightarrow y = -\frac{1}{r}x + \frac{1}{r} \rightarrow m = r$$

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

$$y = \frac{1}{r}x + b$$

$$x + ry = 1$$

$$y = \frac{1}{r}x + b \rightarrow r \cdot \frac{1}{r}x + b = 1 \rightarrow b = -r \cdot \frac{1}{r} + 1$$

$$y = \frac{1}{r}x - r \cdot \frac{1}{r} + 1$$

$$\sqrt{(r-r)^2 + (-1-r)^2} = \sqrt{14+9} = 5$$

$$|r(r) + r(r) - r|$$

$$\sqrt{9+14}$$

$$= \frac{14}{5} = 2.8$$

$$rx + ry = 1, rx + ry = 4$$

نکات مهم: در این دو خط

$$\frac{14-1}{\sqrt{(r)^2 + (4)^2}} = \frac{r}{\sqrt{14+16}} = \frac{r}{\sqrt{30}}$$

RADO

(1) (r)

دایره
 $\frac{1}{2}$ سن

$$\frac{|3x+2y-1|}{\sqrt{9+4}} = \frac{|3x+2y-4|}{\sqrt{4+9}} \rightarrow$$

$$|3x+2y-1| = |3x+2y-4|$$

$$3x+2y-1 = 3x+2y-4$$

$$3x+2y-1 = 3x+2y-4$$

(5)

(4)

$$\begin{aligned} x-y &= -2 \\ 2x+2y &= 4 \end{aligned}$$

زاویه بین خط

$$y = -3x+4 \rightarrow m = -3$$

$$y = 2x+2 \rightarrow m' = 2$$

$$\tan \alpha = \left| \frac{m-m'}{1+mm'} \right| = \left| \frac{-3-2}{1+(-6)} \right| = \left| \frac{-5}{-5} \right| = 1 \rightarrow \alpha = \frac{\pi}{4}$$

(5)

(0)

$$B \begin{vmatrix} -2 \\ 4 \end{vmatrix}, A \begin{vmatrix} 3 \\ -2 \end{vmatrix} \quad \text{نقطه}$$

$$\sqrt{\frac{(4-(-2))^2}{4} + \frac{(-2-3)^2}{4}} = \sqrt{10} = \frac{1}{2}$$

(5)

(4)

$$\left(\frac{-2+3}{2}, \frac{3-2}{2} \right) \rightarrow (-1, 1)$$

مركز نقل؟

$$\left(\frac{-10 - 1 + 1}{1}, \frac{-11 + 1 + 1}{1} \right) \checkmark (-10, -11) \text{ (V)}$$

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

(1,0)

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

(A) مركزية نقطة محاور

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

مركزية نقطة محاور

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

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

مستقيمات المماس

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

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

مستقيمات مماس وحاصل

$$y = \frac{2x+1}{x-1} \quad \text{أرسمها بنقطة O}$$

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

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

(1,0)

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

$$y' = \frac{2x' + 1}{x' - 1} \quad (9)$$

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

$$y' = \frac{2}{x'}$$