

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

← روش حذف

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

$$\begin{array}{r} 19y_n = -1 \\ y_n = -\frac{1}{19} \end{array}$$

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

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

روش دالکر

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

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

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

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

$$- \frac{\begin{vmatrix} +r & +1 \\ -1d & -r \end{vmatrix}}{-19}$$

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

RADO

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

نکته

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

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

$$y = -rx + 14$$

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

$$r = -r(r) + b \rightarrow y = -rx + 14$$

$$ry + 4x = -1$$

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

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

$$x + ry = 1 \quad \text{و}$$

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

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

$$\sqrt{(r-r)^2 + (-1-r)^2} = \sqrt{14+9} \quad \text{و} \quad \left| \frac{-1}{r} \right| \cdot \frac{1}{r} = \frac{1}{r^2}$$

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

$$rx + ry = r \quad \text{و} \quad rx + ry = 4$$

$$\sqrt{9+14}$$

$$= \frac{14}{a} = r$$

$$rx + ry = 14, \quad rx + ry = 4$$

نکته: در این دو صورت، در هر دو صورت، این دو صورت

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

RADO

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

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

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

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

$$x-y = -2$$

$$2x+2y = 4$$

زاویه بین خط

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

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

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

$$B \left| \frac{-5}{-5} \right|, A \left| \frac{3}{-2} \right| \quad \text{نقطه}$$

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

$$\left(\frac{-5+3}{2}, \frac{3-2}{2} \right) \rightarrow (-1, 1)$$

مکمل نقل؟

$$\left(\frac{-10 - 1 + 1}{1}, \frac{-11 + 1 + 1}{1} \right) = (-10, -9)$$

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

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

قرینه نسبت به محور x

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

قرینه نسبت به محور y

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

نسبتار لفظ رسم

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

نسبتار رسم و چهارم

$$y = \frac{2x+1}{x-1} \quad | \quad \text{اگر نسبت به نقطه } (1, 1)$$

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

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

$$y' + 1 = \frac{2(x'+1)}{x'+1-1} = \frac{2x'+2}{x'} = 2 + \frac{2}{x'} \quad | \quad \text{اگر نسبت به نقطه } (1, 1) \quad y' = \frac{4}{x'}$$