

معادله ندرال ۱:

$$m = \frac{\Delta y}{\Delta x} = -\frac{1}{2}$$

① افق $\frac{\Delta y}{\Delta x}$ بزرگ

$$y = am + b \rightarrow -\frac{1}{2}m + b \quad \boxed{y = -\frac{1}{2}m + 11}$$

$$-\frac{1}{2}(\frac{1}{2}) + b = 1 \rightarrow b = 11 \quad \text{ب}$$

$$m = -\frac{4}{3} = -\frac{4}{3}$$

بازرسی ۲: $y = 4m - 1$

$$y = am + b = -\frac{4}{3}m + b \quad \boxed{y = -\frac{4}{3}m + 14}$$

$$-\frac{4}{3}(\frac{1}{2}) + b = 1 \rightarrow b = 14$$

$$m = -\frac{1}{3} = -\frac{1}{3} \rightarrow m = -\frac{1}{3}$$

بازرسی ۳: $m + 3y = 1$

$$m = -\frac{1}{3}$$

$$3(\frac{1}{3}) + b = 1 \rightarrow b = 0$$

$$\boxed{y = \frac{1}{3}m - 1}$$

$$\tan \frac{\pi}{4} = \sqrt{3}$$

$$\boxed{y = \sqrt{3}m + 2 - \sqrt{3}}$$

بازرسی ۴: $\frac{\pi}{4}$

$$y = am + b \rightarrow y = \sqrt{3}m + b \quad 2 - \sqrt{3} = \sqrt{3} + b \rightarrow b = 2 - \sqrt{3}$$

$$AB = \sqrt{\Delta x^2 + \Delta y^2} \rightarrow \sqrt{4 + 16} \rightarrow \sqrt{20} = 2\sqrt{5} \quad \text{ب (۲) افق}$$

$$\frac{|4 + 12 - 3|}{\sqrt{20}} \rightarrow \frac{13}{\sqrt{20}} \leftarrow \frac{|am + by + c|}{\sqrt{a^2 + b^2}}$$

$$d = \frac{|c - c'|}{\sqrt{a^2 + b^2}} \rightarrow \frac{|12 - 11|}{\sqrt{20}}$$

$$\frac{1}{\sqrt{20}} \rightarrow \frac{\sqrt{20}}{20}$$

$$am + by + \frac{c' + c}{2} \quad \text{ب (۳) افق}$$

$$\rightarrow \frac{1}{2}m + 4y + \frac{12 + 11}{2} \rightarrow \frac{1}{2}m + 4y + 11.5$$

$$\left. \begin{aligned} \frac{1}{2}m + 4y - 11.5 \\ \frac{1}{2}m + 4y - 11.5 \end{aligned} \right\} \text{در خط موازی}$$

$$r_m - r_y = 1$$

$$r_m + r_y = r$$

$$\frac{|r_m - r_y - 1|}{\sqrt{9 + \epsilon}} = \frac{|r_m + r_y - r|}{\sqrt{\epsilon + 9}} \quad (5)$$

$$\frac{|am + by - c|}{\sqrt{a^2 + b^2}} = \frac{|a'm + b'y - c|}{\sqrt{a'^2 + b'^2}} \quad |r_m - r_y - 1| = |r_m + r_y - r|$$

$$r_m - r_y - 1 = r_m + r_y - r \rightarrow m - \delta y = -r$$

$$m - \delta y + r = 0$$

$$r_m - r_y - 1 = -r_m - r_y + r \rightarrow m + y = \epsilon$$

$$\delta m + y - \epsilon = 0$$

$$y + r_m - r = 0 \quad y - r_m - \delta = 0$$

$$m = -\frac{r}{1} \epsilon - r \quad m = \frac{r}{1} \epsilon + r$$

$$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right| \rightarrow \left| \frac{-r - r}{1 - 4} \right| \rightarrow \left| \frac{-2r}{-3} \right| = 1 \quad \tan \alpha = 1$$

$$\alpha = \frac{\pi}{4} \rightarrow 45^\circ$$

$$A \begin{vmatrix} r \\ -r \end{vmatrix} B \begin{vmatrix} -\delta \\ \epsilon \end{vmatrix}$$

$$AB = \sqrt{(r + \delta)r + (-r - \epsilon)r}$$

$$\sqrt{100} = 10$$

$$M \begin{vmatrix} \frac{(m_A + m_B)}{r} \\ \frac{(y_A + y_B)}{r} \end{vmatrix} \begin{vmatrix} -\frac{r}{r} = -1 \\ \frac{r}{r} = 1 \end{vmatrix} \quad \left(M \begin{vmatrix} -1 \\ 1 \end{vmatrix} \right)$$

$$\begin{vmatrix} -1 & -2 & 1 \\ -1 & 1 & 1 \end{vmatrix} \rightarrow \text{حاصل}^2$$

(۷) الف)

$$G \begin{vmatrix} \frac{m_1 + m_2 + m_3}{r} \\ \frac{y_1 + y_2 + y_3}{r} \end{vmatrix} \begin{vmatrix} \frac{r-1}{r} \rightarrow \frac{9}{r} = -1 \\ \frac{1+r-1}{r} \rightarrow \frac{9}{r} = -1 \end{vmatrix} \quad G = (-1, -1)$$

۵

$$S = \frac{1}{r} \begin{vmatrix} -1 & -2 & 1 \\ -1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix} \Rightarrow \frac{1}{r} |44| = 44$$

۶

$$|-1 \cdot 1 \cdot 1 - (1 \cdot 1 \cdot 1 + 1 \cdot 1 \cdot 1)|$$

$$y = \frac{r_{m+1}}{r_{m-1}}$$

$$-y = \frac{r_{m+1}}{r_{m-1}}$$

(۸) الف)

ی مترسبی شود

$$y = \frac{r_{m+1}}{-r_{m+1}}$$

۶

$$y = \frac{r_{m+1} - 1}{r_{m+1}}$$

$$y = \frac{-r_{m+1}}{-r_{m+1}}$$

ب) مترسبی شود

$$n = \frac{r_{y+1}}{r_{y-1}} \rightarrow y = \frac{r_{m-1}}{r - r_m}$$

ج) مترسبی شود

$$y = \frac{r_{m+1}}{r_{m-1}}$$

$$-n = \frac{-r_{y+1}}{-r_{y-1}} \rightarrow y = \frac{r_{m-1}}{-r_{m-1}}$$

د) مترسبی شود

$$y = \frac{r_{m+1}}{r_{m+1}}$$

$$\left(y = \frac{r_{m+1}}{m-r} \right) \text{ مع } (9)$$

$$\left\{ \begin{array}{l} m' = m-r \\ y' = y+r \end{array} \right\} \rightarrow \left\{ \begin{array}{l} m, m'+r \\ y, y'-r \end{array} \right\} \rightarrow y' - r = \frac{r_{m'+0}}{m'-1} \quad | \text{ مع } r \text{ مضاف } (9)$$

$$y' = \frac{r_{m+0}}{m'-1} + r = y' = \frac{r_{m'+0} + r_{m'-r}}{m'-1}$$

$$\boxed{y' = \frac{r_{m'+r}}{m'-1}}$$

$$\left\{ \begin{array}{l} m' = m-r \\ y' = y-r \end{array} \right\} \rightarrow \left\{ \begin{array}{l} m, m'+r \\ y, y'+r \end{array} \right\} \rightarrow y' + r = \frac{r_{m'+v}}{m'} \rightarrow y' = \frac{r_{m'+v}}{m'} - r = \left(-\frac{r_{m'}}{m'} \right)$$

$$\boxed{y' = \frac{v}{m'}}$$

$$\left(\begin{array}{l} r_{m+0}y = r \\ m-0y = 1 \end{array} \right) (10)$$

$$m = \frac{(1)(1) - (r)(-0)}{(r)(-0) - (1)(1)} \rightarrow m = \frac{1}{19}$$

$$y = \frac{(r)(1) - (1)(r)}{(r)(-0) - (1)(1)} \rightarrow \boxed{y = -\frac{1}{19}}$$

$$\begin{array}{l} r_{m+0}y = r \\ -r_{m+0}y = r \\ 19y = -1 \\ \boxed{y = -\frac{1}{19}} \end{array}$$

$$\boxed{m = \frac{1}{19}}$$