

$m = \frac{y_2 - y_1}{x_2 - x_1}$, $y = mx + b$, $m = \tan(\alpha)$
 $m = \frac{2 - (-2)}{1 - 0} = -4$ $y = -4x + b$ $(1, 2) \rightarrow 2 = -4 + b \rightarrow b = 6 \rightarrow y = -4x + 6$ (الف)
 $m = \frac{-4}{1} = -4$ $\frac{C_1}{m} = \frac{C_2}{m'} \rightarrow m' = -4 \rightarrow y = -4x + b$ $(5, 2) \rightarrow 2 = -20 + b \rightarrow b = 22 \rightarrow y = -4x + 22$ (ب)
 $m = \frac{-1}{1} = -1$ $\frac{C_1}{m} = \frac{C_2}{m'} \rightarrow m' = 1 \rightarrow y = x + b$ $(1, 2) \rightarrow 2 = 1 + b \rightarrow b = 1 \rightarrow y = x + 1$ (ج)
 $m = \tan \frac{\pi}{4} = 1 \rightarrow y = x + b$ $(1, 2) \rightarrow 2 = 1 + b \rightarrow b = 1 \rightarrow y = x + 1$ (د)

$3x + 4y - 12 = 0$ $3x + 4y = 12$ (ب) $(-1, 0)$ $(0, 3)$
 $d = \frac{|ax_0 + by_0 + c|}{\sqrt{a^2 + b^2}} = \frac{|3(-1) + 4(0) - 12|}{\sqrt{3^2 + 4^2}} = \frac{|-15|}{5} = 3$
 $d = \frac{|3x_1 + 4y_1 - 12|}{\sqrt{3^2 + 4^2}} = \frac{|3(1) + 4(2) - 12|}{5} = \frac{|1|}{5} = \frac{1}{5}$

$\frac{|C - C'|}{\sqrt{a^2 + b^2}}$, $\begin{cases} ax + by + C = 0 \\ ax + by + C' = 0 \end{cases}$
 $3x + 4y - 12 = 0$, $3x + 4y - 6 = 0$
 $\rightarrow \frac{|-12 - (-6)|}{\sqrt{3^2 + 4^2}} = \frac{|-6|}{5} = \frac{6}{5}$
 $ax + by + C = 0$, $ax + by + C' = 0$
 $\frac{C + C'}{2} = \frac{-12 - 6}{2} = -9$
 $3x + 4y = 18$

$\begin{cases} ax + by + C = 0 \\ a'x + b'y + C' = 0 \end{cases} \rightarrow \frac{|ax + by + C|}{\sqrt{a^2 + b^2}} = \frac{|a'x + b'y + C'|}{\sqrt{(a')^2 + (b')^2}}$
 $\begin{cases} 3x - 4y - 1 = 0 \\ 3x + 4y - 3 = 0 \end{cases} \rightarrow \frac{|3x - 4y - 1|}{\sqrt{3^2 + 4^2}} = \frac{|3x + 4y - 3|}{\sqrt{3^2 + 4^2}} \rightarrow |3x - 4y - 1| = |3x + 4y - 3|$
 $\begin{cases} 1) 3x - 4y - 1 = 3x + 4y - 3 \rightarrow x - 4y + 2 = 0 \\ 2) 3x - 4y - 1 = -(3x + 4y - 3) \rightarrow 6x - 8y + 2 = 0 \end{cases}$

$\tan \alpha = \left| \frac{m - m'}{1 + mm'} \right|$ $\alpha = 180^\circ - \alpha$
 $y + 3x = 12 \rightarrow m = -3$
 $y - 3x = 6 \rightarrow m' = 1$
 $\tan \alpha = \left| \frac{-3 - 1}{1 + (-3)(1)} \right| = \left| \frac{-4}{-2} \right| = 2 \rightarrow \alpha = \frac{\pi}{2} = 90^\circ$
 $(\beta = 180^\circ - \alpha \rightarrow \beta = 180^\circ - 90^\circ = 90^\circ)$

$(-9, 2) \quad (-2, 5)$

(-) نقطه نقطه A, B این نقطه

$$m(x'y') = \begin{cases} x' = \frac{x_A + x_B}{2} \\ y' = \frac{y_A + y_B}{2} \end{cases} \Rightarrow \begin{cases} x' = \frac{-2 + 0}{2} = -1 \\ y' = \frac{2 - 1}{2} = \frac{1}{2} \end{cases}$$

$$m : (-1, \frac{1}{2})$$

الف) نامله (نقطه) $A(2, -2)$, $B(-2, 2)$

$$AB = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2}$$

$$AB = \sqrt{(-2 - 0)^2 + (8 - 1)^2} = 10$$

(ب) صاحب قتلث

$$S = \frac{1}{r} \begin{vmatrix} x_1 & x_r & x_n \\ y_1 & y_r & y_n \\ 1 & 1 & 1 \end{vmatrix} \Rightarrow S = \frac{1}{r} \begin{vmatrix} -10 & -r & r \\ -10 & r & 1 \\ 1 & 1 & 1 \end{vmatrix}$$

الف) مرکز ثقل مثلث

$$\begin{aligned} \frac{1}{G} &= \frac{x_A + x_B + x_C}{r} \quad , \quad \frac{1}{G} = \frac{y_A + y_B + y_C}{r} \\ \rightarrow \frac{1}{G} &= \frac{-10 - 2 + 15}{r} = \frac{-15 + 15}{r} = 0 \\ \frac{1}{G} &= \frac{-10 + 15 + 1}{r} = \frac{-9}{r} = -\frac{9}{r} \\ G &= (-r, -r) \end{aligned}$$

الف) مضروب $y = \frac{x+1}{x-3}$ حيث x عدد صحيح

(ب) ضابطہ کی تیج قرینہ نسبت بہ محور و ؟ :

(ج) ضابطہ تابع قرینہ نسبت بہ طور خاصہ اول و دوم :

$$\rightarrow y = \frac{3x+1}{5x-2}$$

$$y = \frac{rx+1}{x-r}, \quad O'(\alpha, \beta) \rightarrow \begin{cases} x' = x - \alpha \\ y' = y - \beta \end{cases}$$

الف) ادمیه مقصود به نظامی (۳-۲) فتنه شود و ضعیفای تابع؟ - ب

$$\begin{cases} x' = x - r \rightarrow x = x' + r \\ y' = y + r \rightarrow y = y' - r \end{cases}$$

$$y' - v = \frac{r(n' + r) + 1}{(n' + r) - v} = \frac{r n' + d}{n' - 1} \rightarrow y' = \frac{r n' + d + r n' - r}{n' - 1} = \frac{2 n' + r}{n' - 1} \rightarrow y' = 2 n' + r$$

(۱) اگر به امتحانات به تنهایی (۲، ۲) فینال شود ضایع؟

$$\begin{cases} x' = x - r \rightarrow x = x' + r \\ y' = y - r \rightarrow y = y' + r \end{cases}$$

$$y' + r = \frac{r(n+r)+1}{(x'+r)-r} = \frac{rx' + V}{x'} \rightarrow y' = \frac{rx' + V - rx'}{x'} \rightarrow y' = \frac{V}{x'}$$

(ب) روشن کرد:

$$\begin{cases} x + y = 2 \\ x - 2y = 1 \end{cases} \quad \text{جواب: } \begin{vmatrix} 1 & 1 \\ 1 & -2 \end{vmatrix} = -1 - 1 = -2$$

$$x = -\frac{18}{-19} = \frac{18}{19} \quad y = \frac{1}{-19} = -\frac{1}{19}$$

الف (راس خدھی :

$$\begin{cases} 5x + 2y = 7 \\ x - 2y = 1 \end{cases} \quad \begin{array}{l} \text{Add} \\ \hline 6x = 8 \\ x = \frac{4}{3} \end{array}$$

$$x_{\text{sum}}: \begin{vmatrix} 1 & 2 \\ 2 & 1 \end{vmatrix} \quad y_{\text{sum}}: \begin{vmatrix} 1 & 2 \\ 1 & 2 \end{vmatrix}$$

$$= 7 - (-10) = 17$$

$$= 2 - 1 = 1$$