

$$\text{d) } 9x^2 - \Delta x - 4 = 0 \Rightarrow x^2 - \Delta x - 144 = 0 \Rightarrow (x-9)(x+16) = 0 \Rightarrow \text{Lsg: } \frac{+9}{9}, \frac{-16}{9} \rightarrow \boxed{\frac{+9}{9}} \quad \boxed{\frac{-16}{9}}$$

$$\div) \quad r x^2 - 1 x - 2 = 0 \Rightarrow x^2 - 1 x - 2 = 0 \Rightarrow (x-2)(x+1) = 0 \Rightarrow \frac{2}{-1} : \frac{1}{-2} \Rightarrow \frac{-1}{-2} \rightarrow \boxed{r_9 = \frac{1}{2}}$$

$$c) x^2 - 4x - 12 = 0 \Rightarrow x^2 - 4x - 12 = 0 \Rightarrow (x-6)(x+2) = 0 \Rightarrow \frac{6}{-} : \frac{6}{+}, -\frac{12}{-} \rightarrow \boxed{\frac{6}{+}, -\frac{12}{-}}$$

$$\Rightarrow 2x' - 2x - 12 = 0 \Rightarrow x' - 2x - 12 = 0 \Rightarrow (x-1)(x+2) = 0 \Rightarrow \frac{10}{2} : \frac{1}{2}, -\frac{12}{2} \rightarrow \boxed{F_9 = \frac{10}{2}}$$

$$\text{الف) } x^2 - 2x - 15 = 0 \Rightarrow (x-5)(x+3) = 0 \Rightarrow \boxed{V_9 - 2}$$

$$\therefore r_1 r_2 + \omega r_1 + r_2 = 0 \xrightarrow{a+c=b} \text{?} : -1, -\frac{c}{a} \rightarrow \boxed{-1, -\frac{r}{r}}$$

$$c) x^T + yu + v = 0 \xrightarrow{\Delta} \Delta = b^T - \kappa a = (r)^2 + (-\kappa x^T x) = \kappa - 11 = -1 \Rightarrow \Delta < 0 = \text{Sattelpunkt}$$

$$y) \mu x^2 + \mu x - 1 = 0 \xrightarrow{\Delta = b^2 - 4ac} \Delta = (\mu)^2 + (-\mu x - 1)(\mu x) \Rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-\mu \pm \sqrt{\mu^2}}{2} \rightarrow \begin{matrix} N_1 = \mu \\ N_2 = -1 \end{matrix}$$

$$A \times B = \{(1,2)(1,3)(2,2)(2,3)(3,2)(3,3)\}$$

$$B^2 = B \times B = \{(1,2)(1,3)(1,2)(1,3)\}$$

$$A \times B - B^2 = \{(1, r)(1, r)\}$$

الف) $F(N) = \left\{ \underset{\text{ب}}{(r_0, m^T)}, (r_0, 1), (-r_0, m), (-r_0, n), \underset{\text{ج}}{(r_0, m+r)}, (m, r) \right\}$. $m^T = m + r \Rightarrow r = m^T - m$

سینه مقدار قابل قبول برای تغییر m است $\Rightarrow$ رابطه تابع $y = -\frac{1}{2}x + \frac{c}{2}$ و $x = -1$ در $\frac{c}{2} = -1$ $\Rightarrow c = -2$

در صورت نیاز می‌توانیم $y = 1$ و $y = 2$ را هم در نظر بگیریم $\rightarrow$

$\therefore g(n) = \{(\overbrace{r, m}^{\text{m}^2 = m+r}, (r, 1), (m, r), \overbrace{r, m+r}^{\text{m}^2 = m+r}), (-r, m), (-1, r)\}$

تھا مقدار قابل قبول m (۷) ہے۔ $\Rightarrow$ یہ نتائج نی ہند $\rightarrow if m = 2 - \frac{c}{a} - 1$ اور $\frac{c}{a} = 2$ ہے

$$F(n) = \left\{ \left(\overbrace{1, a^r}^{\text{left}}, \underbrace{1, ka-r}_{\text{right}} \right), \left(a^r, \underbrace{ka+r}_{\text{right}} \right) \right\}$$

$$a^2 = 3a - 2 \Rightarrow -a^2 + 3a - 2 = 0 \xrightarrow{a+b+c=0} \frac{a}{2} = 1 \text{ و } \frac{c}{a} = 2 \xrightarrow{\text{if } a=1} a^2 \times \frac{1}{a} + \frac{c}{a} = 1 + 2 = 3$$

$\Rightarrow$ if $a=1 \rightarrow$ غرق $\Rightarrow$ تنه مقدار معکوب a (معکوب) است

$$f(x) = \begin{cases} x^2 - 1 & x \leq 1 \\ an + b & 1 < x < 2 \\ x^2 & x \geq 2 \end{cases}$$

$x^2 - 1 = ax + b$ if $x = 1 \rightarrow (1)^2 - 1 = a(1) + b \Rightarrow a = -b$
 $x^2 = ax + b$ if $x = 2 \rightarrow (2)^2 = a(2) + b \Rightarrow 4 = 2a + b \Rightarrow \begin{cases} a = 1 \\ b = -2 \end{cases}$

$$a \times b = 1 \times (-2) = -2$$

$$f(x) = \begin{cases} 2x - 3 & x \geq k \\ 4 - 2x & x < k \end{cases}$$

$2x - 3 = 4 - 2x$ if $x = k \rightarrow 2(k) - 3 = 4 - 2(k) \Rightarrow 4k = 7 \Rightarrow k = \frac{7}{4}$

الف) $y'' - 4y = x^2 - 4x + 3$ if $x = 1 \rightarrow y'' - 4y = (1)^2 - 4(1) + 3 \Rightarrow y'' - 4y = 0 \Rightarrow y(y'' - 4) = 0$
 $\Rightarrow y = 0$ or $y = \pm \sqrt{4} \rightarrow$ تابع x

ب) $|x| + |y| = 3$ if $x = 1 \rightarrow |1| + |y| \Rightarrow |y| = 2 \Rightarrow y = \pm 2 \rightarrow$ تابع x

ج) $|y| = \sqrt{1 - \cos x}$ if $\cos x = 0 \rightarrow |y| = \sqrt{1} = 1 \Rightarrow y = \pm 1 \rightarrow$ تابع x

د) $y'' + x^2 + 2x + 1 = 0 \Rightarrow y'' + (x+1)^2 = 0$ if $x = -1 \rightarrow x+1 = 0 \Rightarrow x = -1, y'' = 0 \Rightarrow y = 0$ (تابع x)

الف) $\sqrt[3]{y} + x^2 = 2x - 2 \Rightarrow \sqrt[3]{y_1} = -x_1^2 + 2x_1 - 1$ if $x_1 = x_2 \rightarrow \sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2$ (تابع x)

ب) $y'' + 2y = \sin x \Rightarrow \begin{cases} y_1'' + 2y_1 = \sin x_1 \\ y_2'' + 2y_2 = \sin x_2 \end{cases}$ if $x_1 = x_2 \rightarrow y_1'' + 2y_1 = y_2'' + 2y_2 \Rightarrow y_1'' - y_2'' + 2y_1 - 2y_2 = 0$

$$\Rightarrow (y_1 - y_2)(y_1' + y_1 y_2' + y_2^2) + 2(y_1 - y_2) = 0 \Rightarrow (y_1 - y_2)(y_1' + y_1 y_2' + y_2^2 + 2) = 0 \Rightarrow$$

$y_1 - y_2 = 0 \Rightarrow y_1 = y_2 \Rightarrow$ تابع x

الف) $x \sin y = y \sin x$ if $x = 0 \rightarrow 0 \sin y = y \sin 0 \Rightarrow y = 1, \sqrt{2}, \sqrt{3}, \dots \Rightarrow$ تابع x

ب) $\sqrt{\frac{x}{y}} = z \Rightarrow \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \Rightarrow z + \frac{1}{z} = 2 \Rightarrow z^2 - 2z + 1 = 0 \Rightarrow (z-1)^2 = 0 \Rightarrow z = 1$

$z = 1 \Rightarrow \sqrt{\frac{x}{y}} = 1 \Rightarrow \frac{x}{y} = 1 \Rightarrow x = y \Rightarrow$ تابع x