

$$y = \frac{-b}{2a} = \frac{-(-6)}{2(1)} = 3$$

$$y = (x-3)^2 + d = -8$$

$$d = -8 - (x-3)^2 = -8 - 0 = -8$$

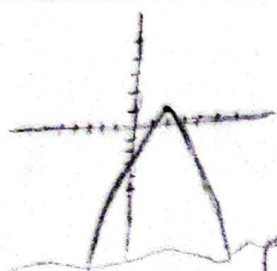


Min : cat 93

رشته ها: ۱-۵۰- عرض از مبدأ: ۵

(u)


 $\left| \begin{array}{c} r \\ 1 \end{array} \right| \leftarrow \left| \begin{array}{c} -\frac{f}{-f'} = r \\ y = -i + A - C = 1 \end{array} \right| \leftarrow \left| \begin{array}{c} -\frac{b}{2a} \\ \sqrt{\frac{b^2 - 4ac}{4a^2}} \end{array} \right| \quad y = -x^2 + 2x + 1 \quad \leftarrow \text{ent (الف)}$



12	11
0	1

(ب) ریشہ کا معادلہ : a او $\frac{c}{a} = \frac{-p}{-1}$ او $\underline{\underline{c}}$

$$r_n^T - r_n + \alpha = 0$$

if $\Delta > 0 \rightarrow$ 2 roots

if $\Delta = 0 \rightarrow$ no

if $\Delta < 0$ — x_1, x_2 —

$$a < \frac{1}{\lambda}$$

$$\leftarrow 1a < 9$$

$$a = \frac{1}{\lambda}$$

← $\lambda a = 9$

$$a > \frac{9}{\lambda}$$

$$a > \frac{9}{15} \quad \text{and} \quad a > 9$$

$$a \leq \frac{1}{\lambda}$$

$$\boxed{a \leq \frac{q}{\lambda}} \leftarrow \lambda a \leq q$$

029-100

$$a \leq \frac{q}{1} \leftarrow 1a \leq q$$

— 029-

الف) $x^2 - 2x - 1 = 0 \xrightarrow{+1} x^2 - 2x + 1 = 2 \rightarrow (x-1)^2 = 2 \rightarrow x-1 = \pm\sqrt{2}$

$$x = r \pm \sqrt{\Delta} \quad \dots \quad x_1 = r - \sqrt{\Delta}, \quad x_2 = r + \sqrt{\Delta}$$

$$b) x^2 - x - 1 = 0 \rightarrow x^2 - x + \frac{1}{x} = \frac{0}{x} \rightarrow (x - \frac{1}{x})^2 = \frac{0}{x} \rightarrow x - \frac{1}{x} = \pm \sqrt{1/8}$$

$$x = \frac{1}{r} \pm \sqrt{1/b} \rightarrow \left[x_1 = \frac{1}{r} + \sqrt{1/b}, x_2 = \frac{1}{r} - \sqrt{1/b} \right]$$

$$\text{الف) } x^2 - 2x - 1 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = x = \frac{2 \pm \sqrt{4 + 4}}{2} = \boxed{1 \pm \sqrt{2}}$$

$$b) x^2 + x - 2 = 0 \quad \Rightarrow \quad x = \frac{-1 \pm \sqrt{1+8}}{2} = \boxed{\frac{-1 \pm \sqrt{9}}{2}}$$

$$\text{الف) } x^2 - 11x + 12 = 0 \rightarrow (x-1)(x-12) = 0 \rightarrow \boxed{x_1 = 1, x_2 = 12}$$

$$\text{ب) } x^2 + 5x - 14 = 0 \rightarrow (x+7)(x-2) = 0 \rightarrow \boxed{x_1 = -7, x_2 = 2}$$

$$\text{الف) } \Delta x^2 - 12x + V = 0 \rightarrow x^2 - 12x + C = 0 \rightarrow (x-V)(x-\Delta) = 0$$

$$x=V \quad x=\Delta$$

$$\rightarrow \boxed{x_1 = \frac{V}{\Delta}, x_2 = \frac{\Delta}{\Delta} = 1}$$

$$\text{ب) } Cx^2 - 10x + V = 0 \rightarrow x^2 - 10x + 11 = 0 \rightarrow (x-V)(x-C) = 0$$

$$x=V \quad x=C$$

$$\rightarrow \boxed{x_1 = \frac{V}{C}, x_2 = \frac{C}{1}}$$

$$\text{الف) } 2x^2 - \Delta x + C = 0 \xrightarrow{a+b+c=0} \boxed{x_1 = 1, x_2 = \frac{C}{2}}$$

$$\text{if } a+b+c=0 \rightarrow x_1=1, x_2=\frac{-c}{a}$$

$$\text{if } a+c=b \rightarrow x_1=-1, x_2=\frac{-c}{a}$$

$$\text{ب) } rx^2 + bx + c = 0 \xrightarrow{a+c=b} \boxed{x_1 = -1, x_2 = \frac{-c}{r}}$$

$$\text{ج) } rx^2 - \Delta x + 1 = 0 \xrightarrow{\Delta} x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{\Delta \pm \sqrt{\Delta^2 - 4}}{2r} = \boxed{\frac{\Delta \pm \sqrt{4V}}{2}}$$

$$\text{د) } \{x^2 + Vx + 9 = 0 \xrightarrow{\Delta} x = \frac{-V \pm \sqrt{V^2 - 36}}{2} \rightarrow \Delta < 0 \rightarrow \text{لا يوجد حلا حقيقي}$$

$$x^2 - 2x - 2 = 0$$

$$S = \frac{-b}{a} \quad P = \frac{c}{a}$$

$$\text{الف) } S^2 - 2P = \left(\frac{-b}{a}\right)^2 - 2\left(\frac{c}{a}\right) = \left(\frac{2}{1}\right)^2 - 2\left(\frac{-2}{1}\right) = 4 + 4 = 8 = \boxed{8}$$

$$\text{ب) } S^2 - 2SP = \left(\frac{2}{1}\right)^2 - 2 \times \left(\frac{2}{1}\right) \times (-2) = 4 + 8 = 12 = \boxed{12}$$

$$\text{الف) } \binom{9}{5} + \binom{9}{4} = \frac{9 \times 8 \times 7 \times 6}{5!} + \frac{9 \times 8 \times 7 \times 6}{4!} = 21 + 126 = \boxed{147}$$

$$\text{ب) } \binom{9}{5} - \binom{9}{4} = \frac{9!}{5!4!} - \frac{9!}{4!5!} = \frac{9 \times 8 \times 7 \times 6}{5 \times 4!} - \frac{9 \times 8 \times 7 \times 6}{4! \times 5} = 21 - 126 = \boxed{-105}$$

$$\binom{n}{k} = \frac{n!}{k!(n-k)!}$$

$$\binom{n}{r} = \frac{n(n-1)}{r!}$$

$$\binom{n}{c} = \frac{n(n-1)(n-2)}{c! \times 2!}$$