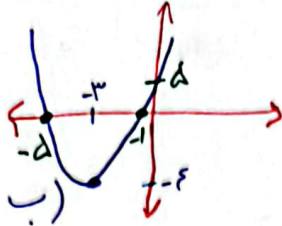
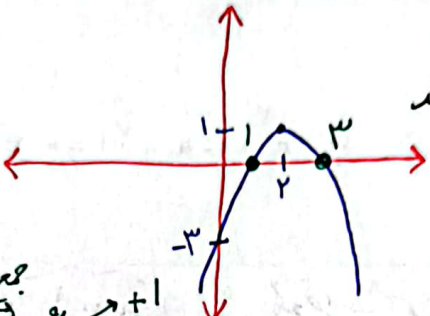


الف) $\text{Min} \begin{vmatrix} -3 \\ -6 \end{vmatrix}$  سهی در نقاط ۱- و ۵- محور ها را قطع می کند

ext $\begin{vmatrix} -b \\ 2a \\ \Delta \\ 4a \end{vmatrix}$

الف) $\text{Max} \begin{vmatrix} 2 \\ 1 \end{vmatrix}$  سهی در نقاط یک و سه محور ها را قطع می کند

ب) $-x^2 + 6x - 3 = 0$ جمع ضرایب صفر است $x \rightarrow +1$
 $x \rightarrow +3$

الف) $\Delta > 0 \Rightarrow 9 - 12a > 0 \Rightarrow 12a < 9 \Rightarrow a < \frac{3}{4}$

ب) $\Delta = 0 \Rightarrow a = \frac{3}{4}$

ج) $\Delta < 0 \Rightarrow 9 - 12a < 0 \Rightarrow a > \frac{3}{4}$

د) $a \leq \frac{3}{4} \rightarrow$ هم مفاعف هم در این اسی

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

ب) $x^2 - x - 1 = 0 \Rightarrow x^2 - x + \frac{1}{4} = \frac{5}{4} \Rightarrow (x - \frac{1}{2})^2 = \frac{5}{4} \Rightarrow x - \frac{1}{2} = \pm\sqrt{\frac{5}{4}} \Rightarrow x = \frac{\sqrt{5}}{2} + \frac{1}{2}, x = -\frac{\sqrt{5}}{2} + \frac{1}{2}$

الف) $x^2 - 2x - 1 = 0 \Rightarrow \Delta = 4 + 4 = 8 \Rightarrow x = \frac{2 \pm \sqrt{8}}{2} = 1 \pm \sqrt{2}$

ب) $x^2 + x - 6 = 0 \Rightarrow \Delta = 1 + 24 = 25 \Rightarrow x = \frac{-1 \pm \sqrt{25}}{2} \Rightarrow x = \frac{-1 \pm 5}{2}$

$\Delta = b^2 - 4ac$
 $x = \frac{-b \pm \sqrt{\Delta}}{2a}$

$$\text{الف) } x^2 - 11x + 28 = 0 \Rightarrow (x-7)(x-4) = 0 \Rightarrow \boxed{x=7}, \boxed{x=4}$$

$$\text{ب) } x^2 + 3x - 28 = 0 \Rightarrow (x+7)(x-4) = 0 \Rightarrow \boxed{x=-7}, \boxed{x=4}$$

$$\text{الف) } \Delta x^2 - 12x + 7 = 0 \Rightarrow x^2 - 12x + 3\Delta = 0 \Rightarrow (x-\Delta)(x-7) = 0 \Rightarrow \boxed{x=\frac{\Delta}{\Delta}}, \boxed{x=\frac{7}{\Delta}}$$

$$\text{ب) } 3x^2 - 10x + 7 = 0 \Rightarrow x^2 - 10x + 21 = 0 \Rightarrow (x-7)(x-3) = 0 \Rightarrow \boxed{x=\frac{7}{3}}, \boxed{x=\frac{3}{3}}$$

$$\text{الف) } 2x^2 - 5x + 3 = 0 \quad \text{جمع ضرایب صفر} \rightarrow \boxed{x=1}, \boxed{x=\frac{3}{2}}$$

$$\text{ب) } 2x^2 + 5x + 3 = 0 \quad a+c=b \rightarrow \boxed{x=-1}, \boxed{x=-\frac{3}{2}}$$

$$\text{ج) } 2x^2 - 5x + 1 = 0 \quad \Delta = 25 - 4 = 17 \quad \boxed{x = \frac{\Delta \pm \sqrt{17}}{4}}$$

$$\text{د) } 4x^2 + 7x + 9 = 0 \quad \Delta = 49 - 144 = -95 \quad \left\{ \begin{array}{l} \text{دلتا } (\Delta) \text{، منفی و در راس} \\ \text{و ریشه حقیقی ندارد} \end{array} \right.$$

$$\left\{ \begin{array}{l} S = \frac{-b}{a} \\ P = \frac{c}{a} \end{array} \right.$$

$$\downarrow \quad \downarrow$$

$$S = \frac{+3}{1} = (+3) \quad P = (-2)$$

$$\text{الف) } 5^2 - 2P = 9 + 4 = 13$$

$$\text{ب) } 5^3 - 35P = 125 - 3(3 \times (-2)) = 125 + 18 = 143$$

$$\boxed{= 143}$$

$$\text{الف) } \binom{7}{5} + \binom{9}{2} = \frac{7 \times 6 \times 5!}{5! \times 1 \times 2!} + \frac{9 \times 8 \times 7!}{2! \times 1 \times 7!} = 21 + 36 = 57$$

$$\text{ب) } \binom{9}{3} - \binom{11}{2} = \frac{9 \times 8 \times 7 \times 6!}{3! \times 6!} - \frac{11 \times 10 \times 9!}{2! \times 9!} = 84 - 55 = 29$$