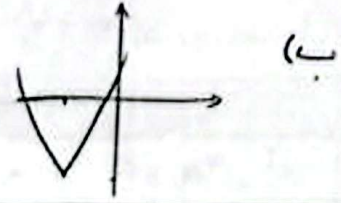
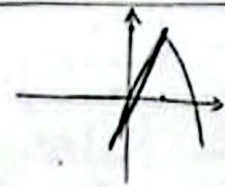


ext $\begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ \frac{-\Delta}{4a} = \frac{-b^2 - 4ac}{4a} = \frac{16 - 12}{4} = \frac{4}{4} = 1 \end{cases}$ عنا صغیرات $\begin{bmatrix} -2 \\ 1 \end{bmatrix}$ Min الف ۱



ext $\begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ \frac{-\Delta}{4a} = \frac{-b^2 - 4ac}{4a} = \frac{16 - 12}{4} = \frac{4}{4} = 1 \end{cases}$ Max $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ الف ۲



ب در نقطه ۳ محور x ها را قطع می کند

$a < \frac{9}{\lambda} \quad \Delta = b^2 - 4ac \Rightarrow 9 - 4a > 0 \quad \Delta > 0 \Rightarrow \frac{4a}{\lambda} < \frac{9}{\lambda} \Rightarrow \boxed{a < \frac{9}{\lambda}} \quad x = \frac{1 \pm \sqrt{\Delta}}{2}$ الف ۳

$a = \frac{9}{\lambda} \quad \Delta = b^2 - 4ac \Rightarrow 9 - 4a = 0 \Rightarrow \frac{4a}{\lambda} = \frac{9}{\lambda} \Rightarrow \boxed{a = \frac{9}{\lambda}} \Rightarrow \Delta = 0 \quad x = \frac{-b}{2a} = \frac{2}{4}$ ب

$a > \frac{9}{\lambda} \quad \Delta = b^2 - 4ac \Rightarrow 9 - 4a < 0 \Rightarrow \frac{4a}{\lambda} > \frac{9}{\lambda} \Rightarrow \boxed{a > \frac{9}{\lambda}} \Rightarrow x = 2$ ج

$a \leq \frac{9}{\lambda} \quad \Delta = b^2 - 4ac \Rightarrow 9 - 4a \geq 0 \Rightarrow \frac{4a}{\lambda} \leq \frac{9}{\lambda} \Rightarrow \boxed{a \leq \frac{9}{\lambda}} \quad x = \frac{9}{\lambda}, 1, \dots$ د

$x^2 - 2x - 1 = 0 \Rightarrow x^2 - 2x = 1 \Rightarrow x^2 - 2x + 1 = 2 \Rightarrow (x-1)^2 = 2 \Rightarrow x-1 = \pm\sqrt{2} \Rightarrow x = \boxed{1+\sqrt{2}}, \boxed{1-\sqrt{2}}$ الف ۴

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

$x^2 - 2x - 1 = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow x = \frac{2 \pm \sqrt{4+4}}{2} = \boxed{\frac{2+\sqrt{8}}{2}}, \boxed{\frac{2-\sqrt{8}}{2}}$ الف ۵

$x^2 + x - 4 = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow x = \frac{-1 \pm \sqrt{1+16}}{2} = \boxed{\frac{-1+\sqrt{17}}{2}}, \boxed{\frac{-1-\sqrt{17}}{2}}$ ب

$x^2 - 11x + 18 = 0 \Rightarrow (x-9)(x-2) \Rightarrow \boxed{x = 2, 9}$ الف ۶

$x^2 + 3x - 18 = 0 \Rightarrow (x+6)(x-3) \Rightarrow \boxed{x = -6, 3}$ ب

$$\Delta x^2 - 12x + V = 0 \Rightarrow x^2 - 12x + 3\Delta = (x-V)(x-\Delta) \Rightarrow x = \boxed{\frac{V}{\Delta}, \frac{\Delta}{\Delta}} \quad \text{الف. ۷}$$

$$3x^2 - 10x + V = 0 \Rightarrow x^2 - 10x + 11 = (x-3)(x-V) \Rightarrow x = \boxed{\frac{3}{3}, \frac{V}{3}} \quad \text{ب}$$

$$2x^2 - 5x + 3 = 0 \Rightarrow x^2 - 5x + 4 = (x-3)(x-2) \Rightarrow \boxed{x = \frac{3}{2}, \frac{2}{2}} \quad \text{الف. ۸}$$

$$2x^2 + 5x + 3 = 0 \Rightarrow x^2 + 5x + 4 = (x+3)(x+2) \Rightarrow \boxed{x = -\frac{3}{2}, -\frac{2}{2}} \quad \text{ب}$$

$$2x^2 - 5x + 1 = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{\Delta \pm \sqrt{25 - 8}}{2} \Rightarrow \boxed{\frac{\Delta + \sqrt{17}}{2}, \frac{\Delta - \sqrt{17}}{2}} \quad \text{ج}$$

$$2x^2 + 5x + 9 = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-5 \pm \sqrt{25 - 72}}{2} \Rightarrow \frac{-5 \pm \sqrt{-47}}{2}$$

(د) چون Δ منفی است ریشه حقیقی ندارد

$$g = \frac{-b}{a} = \frac{r}{1} = r \quad p = \frac{c}{a} \Rightarrow \frac{-r}{1} = -r \quad \text{۹-}$$

$$9 + 4 = \boxed{13} \Rightarrow (3)^2 - 2(-2) = 9 + 4 \quad \text{الف}$$

$$17 + 18 = \boxed{35} \Rightarrow (3)^2 - 3(3)(-2) = 17 + 18 \quad \text{ب}$$

$$\text{الف)} \binom{V}{\Delta} + \binom{9}{2} = \frac{V!}{\Delta! 2!} + \frac{9!}{2! 7!} = \frac{34 \times V}{2!} + \frac{9 \times 8}{2} = 17 + 36 = \boxed{53} \quad \text{۱۰-}$$

$$\text{ب)} \binom{9}{3} - \binom{1}{2} = \frac{9!}{3! 6!} - \frac{1!}{2! 0!} = \frac{V \times K \times 9}{3 \times 2} - \frac{V \times K}{2} = 12 - 2 = \boxed{10}$$

عسائریات