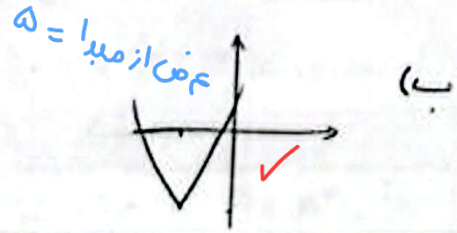


1. الف) $\text{ext} \begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ \frac{-\Delta}{4a} = \frac{-b^2 - 4ac}{4a} = \frac{16 - 12}{4} = -1 \end{cases}$ $\Delta = 4$ $\begin{bmatrix} -2 \\ -1 \end{bmatrix}$ Min $\checkmark$ (ب)



3. الف) $\text{ext} \begin{cases} \frac{-b}{2a} = \frac{-4}{2} = -2 \\ \frac{-\Delta}{4a} = \frac{-b^2 - 4ac}{4a} = \frac{16 - 12}{4} = -1 \end{cases}$ Max $\checkmark$ (ب)



5. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

6. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

7. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

8. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

9. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

10. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

11. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

12. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

13. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

14. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

15. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

16. الف) $\Delta = 4$ $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ Max $\checkmark$ (ب)

$$\Delta x^2 - 12x + V = 0 \Rightarrow x^2 - 12x + 3\Delta = (x-V)(x-\Delta) \Rightarrow x = \left[\frac{V}{\Delta}, \frac{\Delta}{\Delta} \right] \quad \checkmark \quad \text{الف) } \textcircled{2}$$

$$3x^2 - 10x + V = 0 \Rightarrow x^2 - 10x + 11 = (x-3)(x-V) \Rightarrow x = \left[\frac{3}{V}, \frac{V}{3} \right] \quad \checkmark \quad \text{ب)}$$

$$2x^2 - 5x + 3 = 0 \Rightarrow x^2 - 5x + 4 = (x-3)(x-2) \Rightarrow x = \left[\frac{3}{2}, \frac{2}{2} \right] \quad \checkmark \quad \text{الف) } \textcircled{1,5}$$

$$2x^2 + 5x + 3 = 0 \Rightarrow x^2 + 5x + 4 = (x+3)(x+2) \Rightarrow x = \left[-\frac{3}{2}, -\frac{2}{2} \right] \quad \checkmark \quad \text{ب)}$$

$$2x^2 - 5x + 1 = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{5 \pm \sqrt{25 - 8}}{4} \Rightarrow \left[\frac{5 + \sqrt{17}}{4}, \frac{5 - \sqrt{17}}{4} \right] \quad \checkmark \quad \text{ج)}$$

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

د) چون Δ منفی است ریشه حقیقی ندارند

$$x^2 + 7x + 12 \rightarrow \Delta = 7^2 - 4(12) = -9$$

$$g = \frac{-b}{a} = \frac{r}{1} = r \quad p = \frac{c}{a} \Rightarrow \frac{-r}{1} = -r \quad \text{الف) } \textcircled{1,75}$$

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

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

$$\text{الف) } \binom{V}{\Delta} + \binom{9}{2} = \frac{V!}{\Delta! 2!} + \frac{9!}{2! V!} = \frac{34 \times V}{2!} + \frac{\Delta \times 9}{2!} = 11 + 24 = \boxed{35} \quad \text{الف) } \textcircled{2}$$

$$\text{ب) } \binom{9}{3} - \binom{1}{2} = \frac{9!}{3! 6!} - \frac{1!}{2! 0!} = \frac{V \times \Delta \times 9}{3! 2!} - \frac{V \times \Delta}{2!} = 14 - 28 = \boxed{-14}$$

عسائریات