

حفره شما صفر می شود.

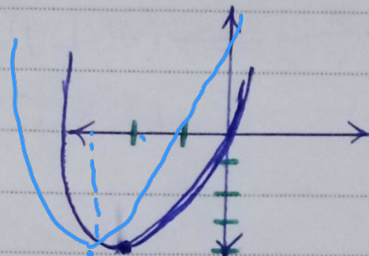
کیانا کریمی

سوال ۱

$$\begin{aligned} \text{Min} \quad & -\frac{c}{a} = -2 \leftarrow -\frac{b}{2a} = -\frac{3}{2a} \\ & -\frac{1c}{4} = -4 \leftarrow -\frac{\Delta}{4a} \end{aligned}$$

الف) نوع سهمی ← Min

۱، ۲۵

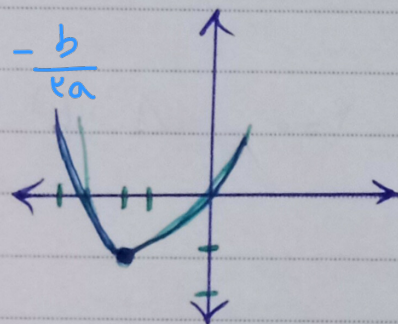


ب)

سوال ۲

۱، ۲۵

$$\begin{aligned} \text{Max} \quad & -\frac{c}{a} = -1 \leftarrow -\frac{b}{2a} = -\frac{1}{2a} \\ & -\frac{1c}{4} = -1 \leftarrow -\frac{\Delta}{4a} \end{aligned}$$



الف)

ب) $-\frac{c}{a} = -1 \leftarrow -\frac{b}{2a} = -\frac{1}{2a}$ جوابات صواب است

$$\Delta = b^2 - 4ac \Rightarrow \Delta = (-3)^2 - 4 \times 1 \times a = 4 - 4a$$

سوال ۳

۱، ۱۸

$$\Delta > 0 \Rightarrow 4 - 4a > 0 \Rightarrow 4a < 4 \Rightarrow a < \frac{4}{4}$$

الف)

$$4 - 4a = 0 \Rightarrow 4a = 4 \Rightarrow a = \frac{4}{4}$$

ب)

$$\Delta < 0 \Rightarrow 4 - 4a < 0 \Rightarrow 4a > 4 \Rightarrow a > \frac{4}{4}$$

ج)

د) اگر یکی از ریشه ها صفر باشد

$$0^2 - 3(0) + a = 0 \Rightarrow a = 0$$

$$a \leq \frac{4}{4} \leftarrow \Delta \geq 0$$

$$\Rightarrow (x-1)^2 = 2 \rightarrow x-1 = \pm\sqrt{2} \quad x = \pm(1 \pm \sqrt{2}) \quad \text{مسئله ۲}$$

$$x^2 - 2x - 1 = 0 \Rightarrow x^2 - 2x - 1 = x^2 - 2x + 1 - 2 \Rightarrow (x-1)^2 - 2 = x^2 - 2x - 1$$

$$x^2 - x - 1 = 0 \Rightarrow -\frac{1}{x} \cdot \left(-\frac{1}{x}\right)^2 = +\frac{1}{x} \Rightarrow x^2 - x - 1 + \frac{1}{x} - \frac{1}{x} = 0$$

$$x^2 - x + \frac{1}{x} - \frac{1}{x} = 0 \Rightarrow \left(x - \frac{1}{x}\right)^2 = \frac{1}{x^2} \Rightarrow x - \frac{1}{x} = \pm \sqrt{\frac{1}{x^2}} \Rightarrow x = \pm \sqrt{\frac{1}{x^2} + \frac{1}{x^2}} \quad \text{مسئله ۳}$$

$$x^2 - 2x - 1 = 0 \quad \Delta = b^2 - 4ac \Rightarrow 4 - 4 \times 1 \times (-1) = 4 + 4 = 8$$

اگر این را بر ۲ ضرب کنیم می‌توانیم

$$\frac{-b \pm \sqrt{\Delta}}{2a} \Rightarrow \frac{+2 \pm \sqrt{8}}{2} = \frac{2 \pm 2\sqrt{2}}{2} = 1 \pm \sqrt{2} \quad \text{۱۵}$$

$$\Delta = (-2)^2 - 4(-1)(1) = 4 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{2 \pm \sqrt{4}}{2}$$

$$x^2 + x - 4 = 0 \quad \Delta = b^2 - 4ac \rightarrow 1 - 4 \times 1 \times (-4) = 1 + 16 = 17 \quad \text{۱۶}$$

$$\frac{-1 \pm \sqrt{17}}{2}$$

مسئله ۴

مسئله ۵

۲

$$x^2 - 11x + 28 = 0 \quad (x-4)(x-7) \quad \checkmark$$

$$x^2 + 3x - 28 = 0 \quad (x+7)(x-4) \quad \checkmark$$

$$5x^2 - 12x + 7 = 0 \Rightarrow x^2 - 12x + 35 = 0 \quad (x-5)(x-7) \quad \text{مسئله ۷}$$

$$3x^2 - 10x + 7 = 0 \Rightarrow x^2 - 10x + 21 = 0 \quad (x-3)(x-7) \quad \text{۱}$$

$$2x^2 - 5x + 3 = 0 \Rightarrow x^2 - 5x + 4 = 0 \quad (x-1)(x-4) \quad \text{مسئله ۸}$$

$$2x^2 + 5x + 3 = 0 \Rightarrow x^2 + 5x + 4 = 0 \quad (x+1)(x+4) \quad \text{۱۵}$$

$$f = -\frac{3}{1} = -3 \quad \left(f = -\frac{b}{a}\right) \quad P = -\frac{c}{a} = -\left(\frac{4}{1}\right) = -4 \quad \text{مسئله ۹}$$

السؤال 4

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

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$$g^2 - rP = (-r)^2 - r \times (-r) = 9 - 9 = 0 \quad 9 + 9 = 18$$

$$g^3 - r g P = (-r)^3 - r \times (-r) \times (-r) = -27 - 18 = -45$$

$$\begin{pmatrix} V \\ 0 \end{pmatrix} + \begin{pmatrix} 9 \\ r \end{pmatrix} = \begin{pmatrix} 14 \\ V \end{pmatrix} \quad / \quad \begin{pmatrix} 1 \\ r \end{pmatrix} - \begin{pmatrix} 1 \\ r \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

السؤال 1

$$\begin{pmatrix} V \\ 0 \end{pmatrix} = \frac{V!}{0! \times r!}$$

$$\begin{pmatrix} 9 \\ r \end{pmatrix} = \frac{9!}{r! \times 9!}$$

$$\begin{pmatrix} 9 \\ r \end{pmatrix} = \frac{9!}{r! \times V!}$$

$$\begin{pmatrix} 1 \\ r \end{pmatrix} = \frac{1!}{r! \times 9!}$$

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