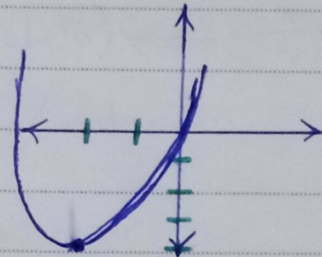


کیا نا کریمی

سوال ۱

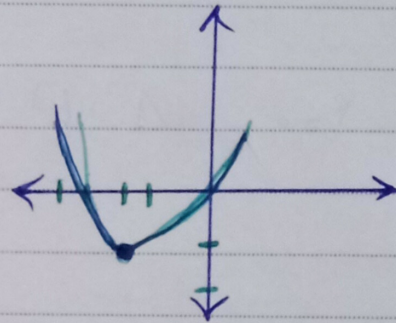
$$\begin{array}{l} \text{Min} \left| \begin{array}{l} -\frac{c}{a} = -2 \leftarrow -\frac{b}{2a} \\ -\frac{14}{4} = -\frac{7}{2} \leftarrow -\frac{\Delta}{4a} \end{array} \right. \end{array}$$

الف) نوع المستقيم $\leftarrow \text{Min}$ 

ب)

سوال ۲

$$\begin{array}{l} \text{Max} \left| \begin{array}{l} -\frac{c}{a} = -1 \leftarrow -\frac{b}{2a} \\ -\frac{c}{a} = -1 \leftarrow -\frac{\Delta}{4a} \end{array} \right. \end{array}$$



الف)

$$\text{ب) } -\frac{c}{a} = -1 \leftarrow -\frac{b}{2a}$$

$$\Delta = b^2 - 4ac \Rightarrow \Delta = (-3)^2 - 4 \times 1 \times a = 9 - 4a$$

سوال ۳

$$\Delta > 0 \Rightarrow 9 - 4a > 0 \Rightarrow 4a < 9 \Rightarrow a < \frac{9}{4}$$

الف)

$$9 - 4a = 0 \Rightarrow 4a = 9 \Rightarrow a = \frac{9}{4}$$

ب)

$$\Delta < 0 \Rightarrow 9 - 4a < 0 \Rightarrow 4a > 9 \Rightarrow a > \frac{9}{4}$$

ج)

د) اگر یک از ریشه ها صفر باشد $x=0$

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

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

مسئله

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

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

$$x^2 - x + \frac{1}{x} - \frac{1}{x} = 0 \Rightarrow \left(x - \frac{1}{x}\right)^2 = \frac{4}{x^2} \Rightarrow x - \frac{1}{x} = \pm \sqrt{\frac{4}{x^2}} \Rightarrow x = \pm \sqrt{\frac{4}{x^2} + \frac{1}{x^2}}$$

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

اگر این را بر 2 ضرب کنیم می‌شود 4

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

$$x^2 + x - 4 = 0 \quad \Delta = b^2 - 4ac \Rightarrow 1 - 4 \cdot 1 \cdot (-4) = 1 + 16 = 17$$

مسئله حل شد

مسئله

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

$$x^2 + 3x - 18 = 0 \quad (x+6)(x-3)$$

$$5x^2 - 12x + 7 = 0 \Rightarrow x^2 - 12x + 35 = 0 \quad (x-5)(x-7)$$

مسئله

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

$$2x^2 - 5x + 3 = 0 \Rightarrow x^2 - 5x + 4 = 0 \quad (x-1)(x-4)$$

مسئله

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

$$f = -\frac{r}{1} = -r \left(f = -\frac{b}{a} \right) \quad P = -\frac{r}{1} = -r \left(P = -\frac{b}{a} \right)$$

مسئله

السؤال 4

$$g = -3 \quad p = -2$$

$$g^2 - 2p = (-3)^2 - 2 \times (-2) = 9 - 4 = 5$$

$$g^3 - 3gp = (-3)^3 - 3 \times (-3) \times (-2) = -27 - 18 = -45$$

$$\begin{pmatrix} 1 \\ 0 \end{pmatrix} + \begin{pmatrix} 4 \\ 2 \end{pmatrix} = \begin{pmatrix} 5 \\ 2 \end{pmatrix} \quad / \quad \begin{pmatrix} 1 \\ 4 \end{pmatrix} - \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 0 \\ 2 \end{pmatrix}$$

السؤال 1