

IV فروردین | Sun 06.04.2025
یکشنبه ۱۴۴۶ | ۶

(۲, ۱) (-۱, ۹)

$$\frac{b}{2a} = -1 \rightarrow b = -2a$$

$$4a + 2b + c = 1, \quad a - b + c = 9$$

$$1a + 2b = -1 \rightarrow 2a + b = -1 \rightarrow 2b = -1 \rightarrow b = -\frac{1}{2} \rightarrow a = -\frac{1}{2}$$

$$c = 1, 0 \leftarrow$$

$$y = -\frac{1}{2}x^2 - x + 1, 0$$

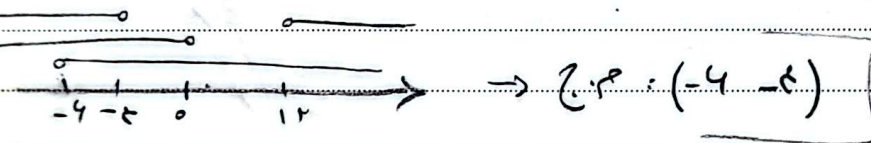
$$2x^2 + mx + (m+4) = 0$$

$$\Delta \geq 0 \rightarrow m^2 - 4m - 16 \geq 0 \rightarrow (m-12)(m+4) \geq 0$$

$$(-\infty, -4) \cup (12, \infty)$$

$$S \geq 0 \rightarrow \frac{-b}{2a} \geq 0 \rightarrow \frac{-m}{2} \geq 0 \rightarrow m \leq 0$$

$$P \geq 0 \rightarrow \frac{c}{a} \geq 0 \rightarrow \frac{m+4}{2} \geq 0 \rightarrow m \geq -4$$



$$x_1 + x_2 = \frac{-b}{a} = \frac{-2m+1}{2}, \quad x_1 x_2 = \frac{c}{a} = \frac{2-m}{2}$$

$$\rightarrow x_1 + x_2 = \frac{1}{x_1 x_2} \rightarrow \frac{-2m+1}{2} = \frac{2}{2-m} \rightarrow 2m^2 - 4m + 1 = 4$$

$$2m^2 - 4m - 3 = 0 \rightarrow m = \frac{4 \pm \sqrt{16}}{4} \rightarrow m = \frac{4}{2} \quad \text{و} \quad m = -\frac{3}{2}$$

$$\Delta \geq 0 \rightarrow 4m^2 - 4m + 1 - 16 \geq 0 \rightarrow 4m^2 - 4m - 15 \geq 0$$

$$m = \frac{4}{2}$$

$$m = -1$$

$$m = \frac{4}{2}$$

$$n^r - n - \epsilon = 0 \rightarrow n_1 + n_2 = 1, n_1 n_2 = -\epsilon \quad (6)$$

$$y_1 = n_1^r + \frac{1}{n_1}, y_2 = n_2^r + \frac{1}{n_2} \rightarrow y^r = Sy + \rho = 0$$

$$\rightarrow S = (n_1^r + \frac{1}{n_1}) + (n_2^r + \frac{1}{n_2}) = (n_1^r + n_2^r) + (\frac{1}{n_1} + \frac{1}{n_2})$$

$$(n_1 n_2)^r - 1 = n_1 n_2 (n_1 + n_2) = 1 - 12 = -11 \leftarrow \frac{n_1 + n_2}{n_1 n_2} = \frac{S}{\rho} = \frac{1}{-\epsilon}$$

$$11 = \frac{1}{\epsilon} = \frac{11}{\epsilon} \quad \rho = (n_1^r + \frac{1}{n_1})(n_2^r + \frac{1}{n_2}) = (n_1 n_2)^r + n_1^r + n_2^r + \frac{1}{n_1 n_2}$$

$$-11\epsilon + 1 - \frac{1}{\epsilon} = \frac{-11\epsilon}{\epsilon} \quad (n_1 n_2)^r - 1 = n_1 n_2 \leftarrow \rho$$

$$y = n^r - \frac{11}{\epsilon} n - \frac{11}{\epsilon} \rightarrow y = \epsilon n^r - 11n - 11$$

$$\left(\sqrt[n^r]{n^r} + \frac{1}{\sqrt[n^r]{n^r}} + 1 \right) \left(\sqrt[n^r]{n^r} - 1 \right) - 2\sqrt[n^r]{n^r} = 0 \quad (7)$$

$$\left(\sqrt[n^r]{n^r} - \sqrt[n^r]{n^r} + 1 - \frac{1}{\sqrt[n^r]{n^r}} + \sqrt[n^r]{n^r} - 1 = 2\sqrt[n^r]{n^r} \right) \times \sqrt[n^r]{n^r}$$

$$n^r - 1 = 2n \rightarrow n^r - 2n - 1 = 0 \rightarrow \frac{b}{2a} = 1$$

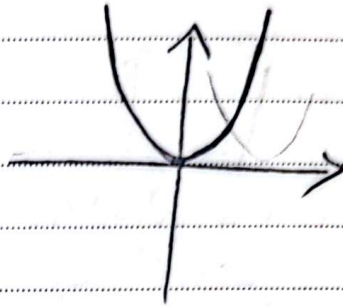
$$n_1 = r, n_2 = 1/r$$

$$n_1 n_2 = \frac{\epsilon}{\mu} = 1/r^2 \rightarrow r = \pm \frac{1}{\mu}$$

$$n_1 + n_2 = 1/r + r = \epsilon r = \frac{a}{\mu} \rightarrow a = 1/r \left\{ \begin{array}{l} a = 1 \\ a = -1 \end{array} \right.$$

$$(614)$$

روز سالمی ۶/۴



$$S > 0$$

$$\Delta > 0$$

$$a > 0$$

$$8a^2 + 9 + 12a - 8a > 0$$

$$8a^2 + 12a + 9 > 0 \quad \checkmark$$

$$a > 0$$

$$\frac{-b}{2a} = 0 \rightarrow -2a - 4 = 0$$

$$2a = -4$$

$$a = -2$$

$$\frac{-\Delta}{4a} = 0 \rightarrow$$

X در ۵ نقطه، ۲ نقطه

$$\frac{-b}{2a} = -1 \quad \frac{-(-2)}{-2} = \frac{-a}{2} \rightarrow 2a = 2 \rightarrow a = 1 \quad (1)$$

$$y = x^2 + 2x - 2 \rightarrow y = 1 \rightarrow x^2 + 2x - 3 = 0 \rightarrow (x+3)(x-1) = 0 \rightarrow (-3), (1)$$

$$\text{و اما } -x^2 - 2x + b = y \rightarrow x = -1 \rightarrow -1 + 2 + b = \frac{-\Delta}{4a} = \frac{4 + 4b}{-4} \rightarrow 1 + b = -1 - b \rightarrow 2b = -2 \rightarrow b = -1$$

$$ab = -2$$

$$2x^2 - ax + b = 0 \rightarrow x = t + \frac{1}{t} \quad 2(t + \frac{1}{t})^2 - a(t + \frac{1}{t}) + b = 0 \quad (2)$$

$$2(t + \frac{1}{t})^2 - a(t + \frac{1}{t}) + b = 0$$

$$2t^2 + \frac{2}{t^2} + 2t - a + \frac{a}{t} - \frac{a}{t} + b = 2at^2 + 2t - 4 = 0$$

$$2t^2 + (2-a)t + \frac{2}{t} - \frac{a}{t} + b = 2at^2 + 2t - 4 = 0$$

$$2a = 2 \rightarrow a = 1 \rightarrow b = -4$$

$$\left[\frac{ab}{4} \right] = \left[\frac{-4}{4} \right] = \left[\frac{-1}{1} \right] = -1$$

مسئله اولی

$$n^2 + 9n + m = n^2 + 2n - km$$

$$9n = -2n - km \rightarrow n = -m$$

$$m^2 - 2m - km = 0 \rightarrow m^2 = km \Rightarrow m = k$$

$$n^2 + 2n - k = 0 \quad , \quad n^2 + 9n + 9 = 0$$

$$(n+1)(n-k)$$

$$n = k$$

$$(n+1)(n+1)$$

$$n = -1$$

$$k - -1 = 9$$