

17, 5

ماده حساب

Date:

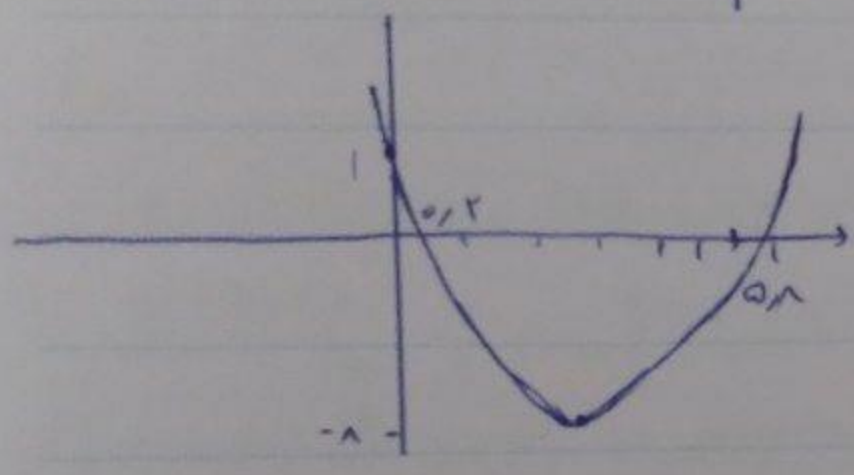
Subject: ()

الف, Min	$x_s = \frac{-b}{2a} = \frac{1}{1} = 1$ $y_s = 2(1) - 1(1) + 1 = 1$	ب, Max	$x_s = \frac{-b}{2a} = \frac{-4}{-1} = 4$ $y_s = \frac{-\Delta}{2a} = \frac{-(9 - 4(-1)(4))}{-1} = \frac{-31}{-1} = 31$
----------	---------------------------------------------------------------------	--------	-------------------------------------------------------------------------------------------------------------------------

الف, $y = x^2 - 4x + 1$

$x_s = \frac{4}{2} = 2$
 $y_s = -1$

$\Delta = 16 - 4 = 12$
 $x_1 = \frac{4 - \sqrt{12}}{2} = \frac{4 - 2\sqrt{3}}{2} = 2 - \sqrt{3} \approx 0,3$
 $x_2 = \frac{4 + \sqrt{12}}{2} = \frac{4 + 2\sqrt{3}}{2} = 2 + \sqrt{3} \approx 3,7$

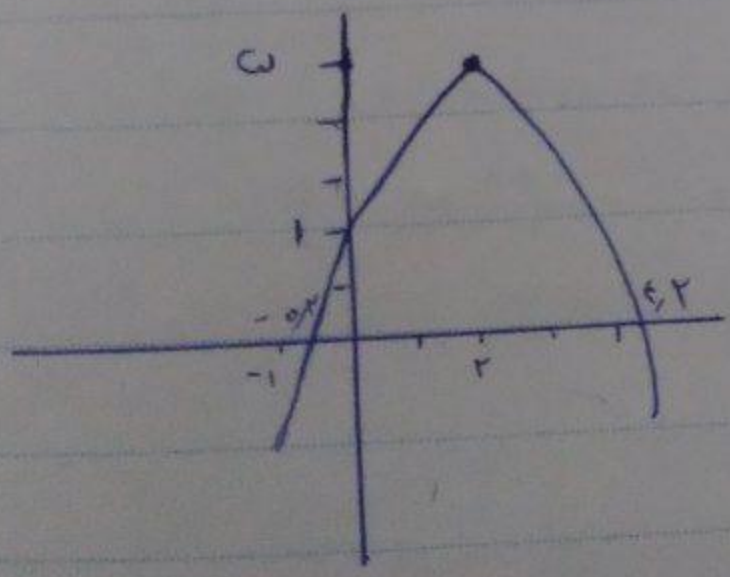


ب, $y = -x^2 + 4x + 1$

$x_s = \frac{-4}{-2} = 2$
 $y_s = 9$

$\Delta = 16 - 4(-1)(1) = 20$

$x_1 = \frac{-4 - \sqrt{20}}{-2} = \frac{-4 - 2\sqrt{5}}{-2} = 2 + \sqrt{5} \approx 4,2$
 $x_2 = \frac{-4 + \sqrt{20}}{-2} = \frac{-4 + 2\sqrt{5}}{-2} = 2 - \sqrt{5} \approx -1,2$



$$\left. \begin{aligned} \alpha + \beta &= 1 \\ \alpha \beta &= -2 \end{aligned} \right\} \rightarrow \begin{aligned} \beta &= 1 - \alpha \\ \alpha(1 - \alpha) &= -2 \end{aligned} \xrightarrow{\text{حل با b}} -\alpha^2 + \alpha - 2 = 0 \rightarrow \alpha^2 - \alpha + 2 = 0 \rightarrow \alpha = -1$$

3

$$x^2 - 2mx + m = 0 \quad m = -\frac{1}{2} \rightarrow 2x^2 + \frac{1}{2}x - \frac{1}{2} = 0$$

4

$$\rightarrow 4x^2 + x - 1 = 0 \quad x^2 + \frac{1}{4}x - \frac{1}{4} = 0 \quad (x - \frac{1}{2})(x + \frac{1}{2}) - \frac{1}{4} = 1, \frac{-1}{4} = -\frac{1}{4}$$

تامل فرمایید
معادله ی جدید

$$1x - \frac{1}{2} = -\frac{1}{2}$$

$$2x^2 - (m+2)x + m = 0 \xrightarrow{a+b+c=0} x=1, \frac{m}{2} - 5 = \frac{1}{2} \mid m(\frac{m}{2}-1) \mid$$

5

مخبره ها: $y(0) = m$

$$\rightarrow \left| m(\frac{m}{2}-1) \right| = \frac{m}{2} \rightarrow |m(m-2)| = \frac{m}{2} \begin{cases} m = -1 \rightarrow \frac{m}{2} = -\frac{1}{2} \checkmark \\ m = 2 \rightarrow \frac{m}{2} = 1 \end{cases}$$

$$x_s = -\frac{b}{2a} = -\frac{2}{2a} \quad y_s = -\frac{\Delta}{4a} = \frac{4a^2 - 4}{4a} = a - \frac{1}{a} = \frac{v}{\lambda} \rightarrow \lambda a^2 - 1 = 0$$

1/5

$$\Delta = 4ac \rightarrow a = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{v \pm \sqrt{4ac}}{2a} = a_1 = 2, a_2 = -\frac{1}{2}$$

$a > 0$ است فقط مقدار +

قابل قبول است

~~اگر مقدار a~~

$$x^2 - (a+1)x + a = 0 \rightarrow \begin{cases} x=1 & \text{فرضتوی} \\ x=a \end{cases} \rightarrow a=3$$

2

$$x^2 - 10x + b = 0$$

$$k + (k+1) = 10 \rightarrow k=4 \rightarrow \text{مجموعه } 4, 4 \rightarrow 4 \times 4 - 2 \times 4 = 21$$

$$x_{s_1} = \frac{-b}{2a} = \frac{-a}{-2a} = \frac{1}{2} \quad y_{s_1} = -a \left(\frac{1}{2} \right)^2 + a \left(\frac{1}{2} \right) + 1 = \frac{a}{4} + 1$$

0
1

$$y_r = b \left(\frac{1}{2} \right)^2 - b \left(\frac{1}{2} \right) - 1 = \frac{b}{4} - 1 - \frac{a}{2} + 1 = \frac{b}{4} - 1 - a + b = -12$$

$$b - a - b = -12 - a \quad b - a = -12 - a - a = b - a = -12 - 2a$$

$$y = -ax^2 + ax + 1 \rightarrow S \left(\frac{1}{2}, \frac{a^2 + 12a}{4a} \right) \quad \frac{-a}{14} + \frac{a}{2} + 1 = \frac{-b}{4} - 1$$

$$y = 2bx^2 - bx - 1 \rightarrow S \left(\frac{1}{2}, \frac{b^2 + 12b}{-4b} \right) \quad \frac{12}{14} = \frac{-b}{4} \rightarrow b = -9$$

$$b \left(\frac{1}{2} \right) - b \left(\frac{1}{2} \right) - 1 = \frac{a}{2} + 1 \rightarrow \frac{a}{2} = -5 \rightarrow a = -10$$

9
9

$$\alpha + \beta = \frac{-b}{2} = \frac{-9}{2}$$

$$\alpha \beta = \frac{c}{a} = \frac{\beta}{2a}$$

$$\begin{cases} 2\omega\alpha^2 = 1 - \alpha = \frac{1}{\omega} \\ \beta = 0 \rightarrow \alpha = \frac{-9}{2} \rightarrow 2\omega\alpha^2 = -9 \rightarrow \end{cases}$$

$$\begin{cases} \alpha = \frac{1}{\omega} \rightarrow \frac{1}{\omega} + \beta = \frac{-9}{2} \rightarrow \beta = -1 \quad \beta < \alpha < 0 < \xi \\ \alpha = -\frac{1}{\omega} \rightarrow -\frac{1}{\omega} + \beta = \frac{9}{2} \rightarrow \beta = 1 \quad \beta > \alpha < 0 < \xi \end{cases}$$

$$y = -\omega x^2 + 9x + 1 \rightarrow \begin{cases} x_{s_1} = \frac{-b}{2a} = \frac{9}{2\omega} > 0 \\ y_{s_1} = \frac{-b}{4a} \xrightarrow{\Delta > 0} y_{s_1} > 0 \end{cases}$$

5
10

$$\begin{cases} S = a + b = a^2 + b^2 - 12 \rightarrow S = S^2 - 2P - 12 \\ P = ab = a + b - 1 \rightarrow P = S - 1 \end{cases} \quad S = S^2 - 2S + 12 - 12$$

$$S^2 - 4S - 10 = 0 \rightarrow \begin{cases} S = 0 \\ S = -2 \end{cases} \quad S = \omega \cup \bar{\omega}$$