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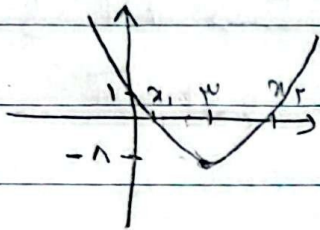
الف)  $x_5 = \frac{-b}{a} = \frac{-K}{K} = -1$   $\rightarrow$  min

$y(x) = x^2 - K(1) + 1 = x^2 - K + 1$   
 $x^2 - K + 1 = -1$

ب)  $x_5 = \frac{-b}{a} = \frac{-K}{K} = -1$   $\rightarrow$  max

$\Delta = 9 - K = 11$

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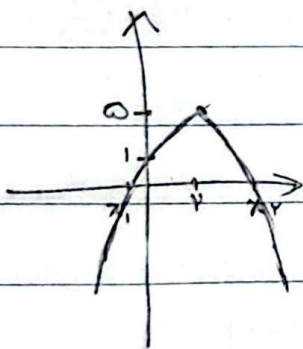


$x_5 = \frac{-b}{a} = \frac{-1}{1} = -1$   $\rightarrow$  min

$y_5 = 9 - 1 + 1 = 9$

$\Delta = 9 - K = 11$

$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{a} = \frac{-1 \pm \sqrt{11}}{1} = -1 \pm \sqrt{11}$



$x_5 = \frac{-b}{a} = \frac{-1}{-1} = 1$   $\rightarrow$  max

$y_5 = 9 - 1 = 8$

$\Delta = 1 + K = 10 \rightarrow \sqrt{\Delta} = \sqrt{10}$

$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{a} = \frac{-1 \pm \sqrt{10}}{-1} = 1 \pm \sqrt{10}$

$\Delta = 1 + K = 10$

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المسألة 3

$\frac{x}{K} = \frac{1}{K}$

$x = \frac{1}{K} \rightarrow x = \frac{1}{K}$

$K \left(\frac{1}{K}\right)^2 + K \left(\frac{1}{K}\right) + 9 = 10 \rightarrow K = -10$

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$$\alpha + \beta = \sqrt{m}$$

$$\alpha\beta = m$$

$$12\sqrt{\alpha} - \sqrt{\beta}$$

$$\rightarrow 12(\sqrt{\alpha} - \sqrt{\beta})^2 = \alpha + \beta - 2\sqrt{\alpha\beta}$$

صورتی  $\sqrt{m} - \sqrt{m} = 1$

$$+ \sqrt{m} \rightarrow + 2\sqrt{m}$$

$$\rightarrow 3 + 2 - 2 + -1 = 0$$

$$\Delta = 4 + 12 = 16$$

$$+ 2 \pm \frac{4}{4} \Rightarrow + 2 \pm 1 \Rightarrow 3 \text{ or } 1$$

$$m \geq 1 \leftarrow + 1 \leftarrow 0 \leftarrow + 2\sqrt{m}$$

$$2x^2 - mx - m$$

صورتی  $\frac{D}{4} = \frac{c}{a} = \frac{-m}{2} = \frac{-1}{2}$

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مساوی  $\alpha = \beta = 0$   $\rightarrow$   $\gamma = m$   $\rightarrow$   $z = (0, m)$

$$2x^2 - (m+2)x + m = 0$$

صورتی  $\frac{D}{4} = \frac{m+2}{2} = \alpha + \beta$   $\frac{D}{4} = \frac{m}{2} = \alpha\beta$

صورتی  $\frac{D}{4} = |a - b|$

صورتی  $\frac{D}{4} = \frac{\sqrt{\Delta}}{|a|} \rightarrow \Delta = (m+2)^2 - 4m = m^2 + 4m + 4 - 4m = m^2$

$$\rightarrow m^2 - 4m + 4 = 0 \rightarrow (m-2)^2 = 0$$

$$\rightarrow \frac{\sqrt{\Delta}}{|a|} = \frac{|m-2|}{2}$$

صورتی  $\frac{D}{4} = m$

$$\text{صورتی } = |m| \times \frac{|m-2|}{2} \times \frac{1}{2} = \frac{|m(m-2)|}{2}$$

$$\rightarrow |m(m-2)| = 2 \rightarrow m(m-2) = 2 \rightarrow m^2 - 2m - 2 = 0$$

$$x_{S2} = \frac{m}{2} \rightarrow m = 1 \rightarrow z = \frac{-1}{2}$$

$$m = 2 \rightarrow z = \frac{2}{2} = 1$$

$$m(m-2) = -2 \rightarrow \Delta = 0$$

9)  $x^2 = \frac{-r}{ka} \rightarrow a \left( \frac{-r}{ka} \right)^2 + r \left( \frac{-r}{ka} \right) + a = \frac{v}{\lambda}$

$\frac{a}{ka} - \frac{a}{ka} + a = \frac{v}{\lambda} \rightarrow \frac{-r + ka^2}{ka} = \frac{v}{\lambda}$

$\rightarrow \lambda a^2 - va - \lambda a^2 = 0 \rightarrow a^2 = \frac{v}{\lambda}$

اینجا هم به این صورت

10)  $x^2 - (a+1)x + a = 0 \rightarrow \begin{cases} x_1 \\ x_2 \end{cases} \rightarrow a = x_1$

$x^2 - (ka+1)x + b = 0$

$k + (k+r) = \frac{-b}{a} = 10 \rightarrow k = k \rightarrow 10 = \frac{b}{a} = k, r$

جواب سوال  $\rightarrow k \times 9 = 3 \times 1 = 27$

11)  $y^2 - ax^2 + ax + r \rightarrow S_2 \left( \frac{-a}{-ka}, \frac{a^2 + \lambda a}{ka} \right) = \left( \frac{1}{r}, \frac{a^2 + \lambda a}{k} \right)$

$y^2 + by^2 - bx - 1 \rightarrow S_2 \left( \frac{1}{k}, \frac{b^2 + \lambda b}{-\lambda b} \right)$

صایبه ای را می  
بسی اولی در  
مکان دوم روی

$rb \left( \frac{1}{k} \right) - b \left( \frac{1}{r} \right) = 1 = \frac{a}{k} + r \rightarrow \frac{a}{k} = 10 \rightarrow a = 10$

صایبه ای را می  
بسی دومی در  
مکان اولی

$-\frac{a}{16} + \frac{a}{k} + r = -\frac{b}{\lambda} - 1 \rightarrow \frac{1r}{16} = -\frac{b}{\lambda} \rightarrow b = -9$

$b - a = -9 - 10 = -19 = 9$

12)  $\alpha + \beta = \frac{-r}{ka}, \alpha\beta = \frac{b}{ka}$

$\rightarrow ka\alpha^2 = 1 \rightarrow \alpha^2 = \frac{1}{ka} \rightarrow \alpha = \pm \frac{1}{\sqrt{ka}}$

$\alpha = \frac{1}{\sqrt{ka}} \rightarrow \beta = -1 - \alpha$

$\alpha = -\frac{1}{\sqrt{ka}} \rightarrow \beta = 1 + \alpha \rightarrow \alpha\beta = \frac{b}{ka} = \frac{-r}{ka} = \frac{r}{ka}$

RADO  $y^2 - ax = \frac{r}{ka} + \frac{\lambda}{a} + 1 = \frac{9}{a}$

(10)

$$S^2 a^2 + b^2 - 12 a + b \rightarrow S^2 - 2p - 12$$

$$p^2 a + b - 1 = ab \rightarrow p^2 - 1$$

$$S^2 - 2p - 12 = S^2 - 2S + 2 - 12 \rightarrow S^2 - 2S - 10 = 0 \rightarrow$$

$$(S - 5)(S + 5) = 0 \rightarrow S = 5 \text{ or } S = -5$$

عبر قائل قبله چون به a و b در طرفین و در طرفین

بهم