

تکلیف شماره 24

آر ا ح ا ت ی - د ه م د خ ت ر ب سوال 1

$$y = 2x^2 - 4x + 1$$

$a > 0 \rightarrow \min$

$$\min \left| \begin{array}{c} 1 \\ -1 \end{array} \right|$$

$$\text{ext} \left| \frac{-b}{2a} = \frac{-(-4)}{2(2)} = \frac{4}{4} = 1 \right.$$

سوال 1

$$\frac{-\Delta}{2a} = - \left(\frac{b^2 - 4ac}{2a} \right) = - \left(\frac{14 - 4(2)(1)}{2(2)} \right) = -1$$

د

$$y = -2x^2 + 3x - 2$$

$a < 0 \rightarrow \max$

$$\max \left| \begin{array}{c} \frac{3}{4} \\ -\frac{31}{8} \end{array} \right|$$

$$\text{ext} \left| \frac{-b}{2a} = \frac{-3}{2(-2)} = \frac{-3}{-4} = \frac{3}{4} \right.$$

$$\frac{-\Delta}{2a} = - \left(\frac{b^2 - 4ac}{2a} \right) = - \left(\frac{9 - 4(-2)(-2)}{2(-2)} \right)$$

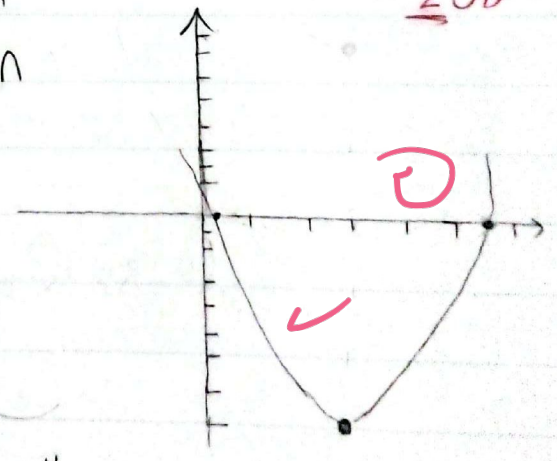
$$\rightarrow - \left(\frac{-31}{-4} \right) = - \frac{31}{4}$$

الف) $y = x^2 - 4x + 1 \rightarrow x_s = \frac{-b}{2a} = \frac{4}{2} = 2$
 $\rightarrow y_s = 4 - 1(4) + 1 = -1$

سوال 2

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{+4 \pm \sqrt{12}}{2}$$

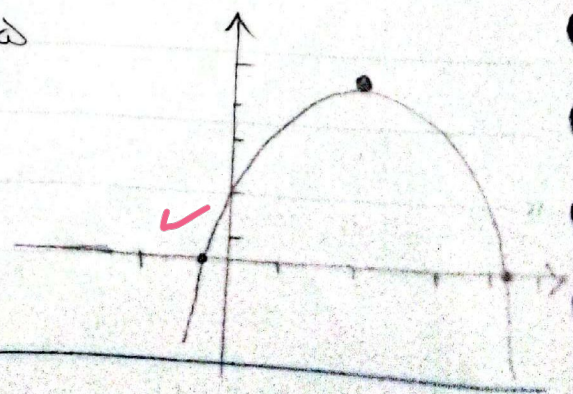
$$\rightarrow \frac{+4 + \sqrt{12}}{2} = \omega_1, \pi \quad \frac{+4 - \sqrt{12}}{2} = 0, \psi$$



ب) $y = -x^2 + 4x + 1 \rightarrow x_s = \frac{-b}{2a} = \frac{-4}{-2} = 2$
 $\rightarrow y_s = -4 + 1(4) + 1 = 1$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-4 \pm \sqrt{20}}{-2}$$

$$\rightarrow \frac{-4 + \sqrt{20}}{-2} = (-\omega, \psi) \quad \frac{-4 - \sqrt{20}}{-2} = (4, \pi)$$



$$fx^m + kx^p - 9x - 2 = 0$$

$$x^p - (a+b)x + ab = x^p - 1x - 2$$

سوال ۳

$$fx^m + kx^p - 9x - 2 = (x^p - x - 2)(Ax + B)$$

$$fx^m + kx^p - 9x - 2 = Ax^m - Ax^p - 2Ax + Bx^p - Bx - 2B$$

$$A = f \begin{cases} -2B = -2 \\ B = 1 \end{cases}$$

$$K = A - B = 1 - f \rightarrow K = -1 \quad \checkmark$$

$$\begin{cases} -2A - B = 9 \end{cases}$$

۲

$$0 = x^p - 3mx + m \rightarrow s = a + b = 3m$$

$$\hookrightarrow p = ab = m$$

سوال ۴

$$|\sqrt{a} - \sqrt{b}| = 1 \rightarrow (\sqrt{a} - \sqrt{b})^2 = a + b - 2\sqrt{ab} = s - 2\sqrt{p}$$

$$s - 2\sqrt{p} = 1 \rightarrow 3m - 2\sqrt{m} = 1$$

$$3m - 2\sqrt{m} - 1 = 0 \rightarrow 3t^2 - 2t - 1 = 0$$

$$(3t + 1)(t - 1)$$

$$t = \frac{-1}{3} \text{ or } t = 1 \quad t = \sqrt{m} \geq 0$$

$$m = t = 1 \quad \checkmark$$

$$\hookrightarrow -2x^2 - mx - m = 0 \rightarrow +2x^2 - x - 1 = 0$$

$$\frac{c}{a} = \frac{-1}{+2} = -\frac{1}{2} \quad \checkmark$$

سوال ۵

صفحه آخر نوشته شده

استقرن مقدار \rightarrow min یعنی

سوال ۲

$$y = ax^p + px + a \rightarrow \frac{-b}{pa} = x \Rightarrow \frac{-p}{pa}$$

$$y_{min} = a \left(\frac{-p}{pa}\right)^p + p \left(\frac{-p}{pa}\right) + a = a \times \frac{a}{pa^p} - \frac{a}{pa} + a = \frac{-a}{pa} + a$$

$$a - \frac{a}{pa} = \frac{V}{\Lambda} \Rightarrow \Lambda a^p - \Lambda = Va$$

$$\Lambda a^p - \Lambda - Va = 0 \rightarrow \text{D}$$

$$\Delta = 4a + 4V^2 = 4a + 4V^2 \rightarrow x = \frac{-b \pm \sqrt{\Delta}}{pa} \rightarrow x_1 = \frac{V + 2a}{pa} = \frac{V}{pa}$$

$$\rightarrow x_2 = \frac{V - 2a}{pa} = \frac{-a}{pa}$$

اگر مانند R باشد در این راه حساب کنیم وی الان ساده می شود راست.

$$x^p - (a+1)x + a \rightarrow 1 - a - 1 + a = 0 \rightarrow x_1 = 1$$

$$\rightarrow x_2 = a \rightarrow \text{D}$$

سوال ۷

$$x^p - (pa+1)x + b \rightarrow x^p - 1 \cdot x + b \rightarrow 2m + (2m+2)$$

$$x^p - (1 \cdot) x + b \rightarrow 4m + 2 = 1$$

$$4m = 1 \rightarrow m = \frac{1}{4}$$

$$x_1 = 4 \quad x_2 = 9$$

$$\Rightarrow x_1 \times x_2 = 36 \quad x_1 \times x_2 = 2E \rightarrow 2E - 36 = 21$$

D

$$y = ax^r + ax + r \rightarrow x_1 = \frac{-a}{r(-a)} = \frac{-a}{-ra} = \frac{1}{r}$$

سوال 9

$$y = rbx^r - bx - 1 \rightarrow y_1 = -a\left(\frac{1}{r}\right) + a\left(\frac{1}{r}\right) + r = \frac{-a}{r} + \frac{a}{r} + r$$

$$x_1 = \frac{-b}{ra} = \frac{b}{ra} = \frac{1}{r}$$

$$y_1 = rb\left(\frac{1}{r}\right) - b\left(\frac{1}{r}\right) - 1 = \frac{-b}{r} - 1$$

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

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

$$b - a = -r - (-1r) = r$$

سوال 9

$$y = r\omega a x^r + \epsilon x + \beta$$

$$A + B = \frac{-\epsilon}{r\omega A}$$

B > a

$$AB = \frac{B}{r\omega A}$$

$$AB = \frac{B}{r\omega A} \rightarrow A = \frac{1}{r\omega A} \rightarrow A^2 = \frac{1}{r\omega} \rightarrow A = \pm \frac{1}{\sqrt{r\omega}}$$

خارجي ديا سوچو

$$A = \frac{1}{\omega} \Rightarrow \frac{1}{\omega} + B = \frac{-\epsilon}{r\omega \times \frac{1}{\omega}} = \frac{-\epsilon}{r\omega} \Rightarrow B = \frac{-\epsilon - 1}{\omega} = -1$$

$$A = \frac{-1}{\omega} \Rightarrow \frac{-1}{\omega} + B = \frac{-\epsilon}{r\omega \times \frac{-1}{\omega}} = \frac{\epsilon}{r\omega} + \frac{1}{\omega} = 1$$

$$\Rightarrow a = \frac{1}{\omega}, B = 1$$

$$y = -\omega x^r + \epsilon x + 1 \rightarrow x = \frac{-\epsilon}{r(-\omega)} = \frac{\epsilon}{r\omega} \quad y = -\omega\left(\frac{\epsilon}{r\omega}\right)^r + \epsilon\left(\frac{\epsilon}{r\omega} + 1\right) = \frac{1}{\omega}$$

جہان نامہ کا نام لکھو اور $x > 0$ اور $y > 0$

لو انا

$$S = a + b = a^r + b^r - 1$$

$$P = ab = a + b - 1$$

$$\Rightarrow a^r + b^r = (a + b) + 1P$$

$$(a + b)^r - r ab = a + b + 1P \xrightarrow{ba = a + b - 1} (a + b)^r - r[(a + b) - 1] = (a + b) + 1P$$

$$(a + b)^r - r(a + b) + r = (a + b) + 1P$$

$$(a + b)^r - r(a + b) - 1 = 0$$

$$t^r - r t - 1 = 0 \Rightarrow (t - a)(t + 1) = 0 \Rightarrow \begin{cases} t = a \\ t = -1 \end{cases}$$

$$a + b - 1 = \varepsilon \rightarrow x^r - a x + \varepsilon = 0$$

$$(x - 1)(x - \varepsilon) = 0 \rightarrow \begin{cases} a = 1, b = \varepsilon \\ a = \varepsilon, b = 1 \end{cases}$$

$$a + b = 1 + \varepsilon = a$$

الاجابة

$$y = rx^r - (m + r)x + m \rightarrow \Delta = (m + r)^2 - 4m = m^2 - 2m + r^2$$

$$y = x^r - mx + 1$$

$$x = \frac{m + r \pm |m - r|}{r}$$

$$x_1 = \frac{m + r + m - r}{r} = \frac{2m}{r} = \frac{m}{r}$$

$$x_2 = \frac{m + r - m + r}{r} = \frac{2r}{r} = 1$$

$$x_1 = \frac{m + r + r - m}{r} = 1$$

$$x_2 = \frac{m + r - r + m}{r} = \frac{2m}{r} = \frac{m}{r}$$

$$m > r \rightarrow |x_2 - x_1| = \frac{|m - r|}{r}$$

$$m^2 - 1m - 1^2 = 0 \rightarrow (m-1)(m+1) \rightarrow \boxed{m=1} \checkmark$$

$$\rightarrow \boxed{m=-1} \checkmark$$

$$m^2 - 1m + 1^2 \rightarrow \Delta = 1 - 4 = -3 < 0 \text{ GÜE}$$

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

