

نام و نام خانوادگی (با اسامی) پاسخنامه تشریحی تکلیف شماره ۲۲ ... کلاس ... دوم ... فصل ...

معادله سوال اول = $y = -\frac{1}{4}x^2 + \frac{11}{4}x - \frac{1}{4}$ ۱۵

$y = a(x - x_5)^2 + y_5 \rightarrow 1 = a(3 - (-1))^2 + 9 \rightarrow 1 = a \times 16 + 9$

$1 = 16a + 9 \rightarrow 16a = -8 \rightarrow a = -\frac{1}{2}$ ۱۵ $y = -\frac{1}{4}x^2 + bx + c \rightarrow \max$

$-\frac{1}{4}x^2 + bx + c = 1 \rightarrow -\frac{1}{4} + 3b + c = 1 \rightarrow 3b + c = \frac{5}{4}$
 $-\frac{1}{4}x^2 - b + c = 9 \rightarrow -b + c = 9 + \frac{1}{4} \rightarrow \frac{1}{4}b + c = \frac{15}{4}$
 $\rightarrow b = 11$ ۱۵ $c = -\frac{1}{4}$

$\Delta > 0$ $2x^2 + mx + m + 4 = 0$

$b^2 - 4ac > 0 \rightarrow m^2 - 4 \times 2(m + 4) > 0 \rightarrow m^2 - 8m - 32 > 0$

$(m - 12)(m + 4) > 0$ $\frac{-4}{+} \frac{12}{-}$ $m > 12, m < -4$ ۱۵

$p = \frac{1}{5}$, $\Delta > 0$, $3x^2 + (4m - 1)x + 2 - m = 0$

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

$-2m^2 + 5m - 2 = 0$ $-(2m^2 - 5m + 2) = 0$ $\frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \left(\frac{5}{4}\right) \text{ و } \left(\frac{1}{2}\right)$ ۱۵

$\Delta > 0 \rightarrow (4m - 1)^2 - 4 \times 3 \times (2 - m) > 0$

۵

$(t^2 + \frac{1}{t^2} + 1)(t^2 - 1) = 2t \rightarrow 1 + \sqrt{t^2} + 1 - \sqrt{t^2} \rightarrow 2$

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

$t^4 - t^2 + 1 - \frac{1}{t^2} + t^2 - 2t - 1 = 0$
 $t^4 - \frac{1}{t^2} - 2t = 0$

$t^4 - 2t^{\frac{3}{2}} - 1 = 0$ $\sqrt{1 + \sqrt{t^2}} \text{ و } \sqrt{1 - \sqrt{t^2}}$

$$r \text{ و } 3r \rightarrow \text{مقادیر}$$

$$S = r + 3r = 4r = \frac{-(-a)}{4} = \frac{a}{4} = 19$$

$$a = 12r$$

$$P = r \times 3r = \frac{r^2}{3}$$

$$r^2 = \frac{r}{a}$$

$$r = \left(\frac{1}{30}\right) \text{ و } r = \left(\frac{2}{15}\right)$$

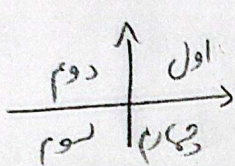
$$\text{اگر } r = \frac{1}{30} \rightarrow a = 1 \rightarrow \text{بازگشایی}$$

$$\text{اگر } r = -\frac{2}{15} \rightarrow a = -1 \rightarrow \text{مقدار صحیح است}$$

فقط برای $a < 0$ منفی

منفی شود برای $a < 0$

$$2a + 3 \geq 0 \rightarrow a \geq -\frac{3}{2} \rightarrow -\frac{3}{2} \leq a \leq 0$$



(مقدار صحیح است باید برای $a < 0$ باشد)

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

$$x = -1$$

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

$$a = 2$$

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

$$x = 1 \text{ و } x = -3$$

$$-x^2 - 2x + b = 1$$

$$b = x^2 + 2x + 1$$

$$(x+1)^2 = b$$

$$b = 4 \text{ و } a = 2$$

$$2x \leq 1$$

$$2x^2 - ax + b = 0 \rightarrow S_1 = \frac{a}{2}$$

$$x_1 + \frac{1}{x_1} + \frac{1}{x_1} + \frac{1}{x_1} = 1$$

$$2ax^2 + ax - 4 = 0 \rightarrow S_2 = -\frac{1}{2a}$$

$$S_1 = S_2 + 1 \rightarrow \frac{a}{2} = -\frac{1}{2a} + 1 \rightarrow a = 1$$

$$2x^2 + x - 4 = 0$$

$$b^2 - 4ac \rightarrow 1 - 4 \times (-4) \times 2 \rightarrow 1 - 4 \times (-8) \rightarrow 1 + 32 \rightarrow 33$$

$$1.5$$

$$b^2 - 4ac$$

$$1 - 4 \times (-4) \times 2$$

$$\left(\frac{33}{4}\right) \leftarrow \frac{33}{4}$$

$$\frac{+1 \pm \sqrt{33}}{4}$$

$$\frac{+1 - \sqrt{33}}{4}$$

$$(-2)$$

$$r^2 + 4r + m - r^2 - 3r + m = 0$$

برای r فرض کرد

$$3r + 4m = 0$$

$$m = -\frac{3}{4}r \rightarrow 4r^2 + 4r - 3r = 0 \rightarrow 4r^2 + r = 0$$

$$r = -\frac{1}{4}$$

$$r(4r+1) = 0$$

$$4r^2 + r = 0$$

$$1.25$$

$$-\frac{3}{4} \text{ و } \frac{9}{4}$$

$$-\frac{3}{4} - \frac{9}{4} = (-3)$$

$$-1 + \frac{1}{4} = \left(\frac{3}{4}\right)$$

$$-\frac{1}{4} - \frac{1}{4} = \left(-\frac{1}{2}\right)$$

$$\frac{-b}{ra} = -1 \leadsto b = ra$$

$$f(-1) = 9 \rightarrow a - b + c = 9 \rightarrow a - ra + c = 9 \rightarrow c = 9 + a$$

$$f(r) = 1 \rightarrow 9a + 3b + c = 1 \rightarrow 9a + 4a + 9 + a = 1 \rightarrow 14a = -8 \rightarrow a = -\frac{1}{r}$$

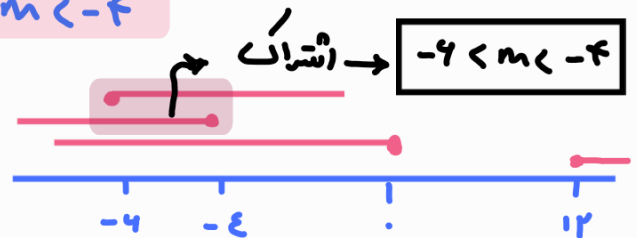
$$\begin{aligned} &\rightarrow b = -1 \\ &\rightarrow c = 1/\Delta \end{aligned} \rightarrow y = -\frac{1}{r}x^2 - x + 1/\Delta$$

$$\Delta > 0 \rightarrow m^2 - f(r)(m+4) > 0 \rightarrow m^2 - 8m - 4 > 0$$

$$(m-12)(m+4) > 0 \rightarrow m > 12 \text{ or } m < -4$$

$$S > 0 \rightarrow -\frac{m}{r} > 0 \rightarrow m < 0$$

$$D > 0 \rightarrow \frac{m+4}{r} > 0 \rightarrow m > -4$$



$$\alpha + \beta = \frac{1}{\alpha\beta} \rightarrow \frac{1-rm}{r} = \frac{r}{r-m} \rightarrow rm^2 - 4m - r = 0$$

$$(m+1)(rm-r) = 0 \rightarrow m = \frac{r}{r} \text{ or } m = -1$$

$$m = -1 \rightarrow rm^2 - 4m - r \rightarrow \Delta < 0 \text{ No solution}$$

$$m = \frac{r}{r} \rightarrow rm^2 + 4m - \frac{r}{r} \rightarrow \frac{c}{a} > 0 \checkmark$$

قوله ربه دارد!

$$x^2 - x - f = 0 \rightarrow S = 1, P = -f$$

$$S' = (x_1^2 + x_2^2) + \left(\frac{1}{x_1} + \frac{1}{x_2}\right) \leadsto S' = S^2 - rSp + \frac{S}{P} = (1)^2 - (r)(-2)(1) + \frac{1}{-f} = -\frac{\Delta}{f}$$

$$P' = (x_1 x_2)^2 + x_1^2 + x_2^2 + \frac{1}{x_1 x_2} \rightarrow P' = P^2 + S^2 - rP + \frac{1}{P}$$

$$P' = (-4)^2 + 1 - r(-2) - \frac{1}{-2} = -4f + 9 - \frac{1}{2} = -\frac{2r1}{f}$$

$$x^2 - S'x + P' = x^2 - \frac{\Delta}{f}x - \frac{2r1}{f}$$

! من أجل $2an^2 + an - 4$ يكون $\beta + \frac{1}{2}, \alpha + \frac{1}{2}, 2an^2 + an - 4$ يكون β, α 4

$$8 = \underbrace{\alpha + \beta}_{-\frac{a}{2a}} + 1 = \frac{a}{2} \rightarrow \frac{a}{2} = \frac{1}{2} \rightarrow a = 1$$

$$P = (\alpha + \frac{1}{2})(\beta + \frac{1}{2}) = \alpha\beta + \frac{1}{2}(\alpha + \beta) + \frac{1}{4} = \frac{-4}{2a} + \frac{1}{2}(\frac{-a}{2a}) + \frac{1}{4} = \frac{-4}{2} - \frac{1}{4} + \frac{1}{4} = \frac{b}{2} \rightarrow b = -9$$

$$\left[\frac{ab}{\epsilon} \right] = \left[\frac{-4}{\epsilon} \right] = [-1, 0] = \boxed{-2}$$

$$n^2 + 4n + m = 0$$

$$n^2 + 2n - 3m = 0 \rightarrow -4n = 4m \rightarrow -n = m \rightarrow m^2 - 4n + m = 0 \rightarrow m = 0$$

$$m = 0 \rightarrow n^2 + 4n + 0 \rightarrow n = -1, -4$$

$$\rightarrow n^2 + 2n - 3 = 0 \rightarrow n = 1, -3 \rightarrow 3 - (-1) = 4$$

10