

نام و نام خانوادگی: ... فرهاد فیروززاده ... پاسخنامه تشریحی تکلیف شماره ۱۹ کلاس: ...

$$2x^2 - 9x + 4 = 0$$

$$\alpha = 2\beta, \alpha + \beta = \frac{a}{\sqrt{3}}, \alpha\beta = \frac{t}{\sqrt{3}}$$

$$2\beta + \beta = \frac{a}{\sqrt{3}} \rightarrow 3\beta = \frac{a}{\sqrt{3}} \rightarrow \alpha = 2\beta \rightarrow \alpha = \pm 2 \rightarrow 12(\pm 2) = \pm 24$$

$$\rightarrow 12 - (-12) = 24 \checkmark$$

$$2\beta(B) = \frac{t}{\sqrt{3}} \rightarrow 2\beta = \frac{t}{\sqrt{3}} \rightarrow B = \pm \frac{t}{\sqrt{3}}$$

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$$2x^2 - (m+1)x + 1 = 0$$

$$\frac{1}{\sqrt{r_1}} + \frac{1}{\sqrt{r_2}} = \Delta \Rightarrow \frac{\sqrt{r_1} + \sqrt{r_2}}{\sqrt{r_1 r_2}} = \frac{\sqrt{r_1 + r_2 + 2\sqrt{r_1 r_2}}}{\sqrt{r_1 r_2}} = \frac{\sqrt{S + \frac{1}{\sqrt{3}}}}{\sqrt{r_1 r_2}} = \Delta$$

$$\Rightarrow \sqrt{S + \frac{1}{\sqrt{3}}} = \frac{\Delta}{\sqrt{r_1 r_2}} \Rightarrow (\sqrt{r_1} + \sqrt{r_2})^2 = r_1 + r_2 + 2\sqrt{r_1 r_2} < \frac{1}{\sqrt{3}} \Rightarrow S + \frac{1}{\sqrt{3}} < \frac{1}{\sqrt{3}} \Rightarrow S < 0 \Rightarrow m+1 < 0 \Rightarrow m < -1$$

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$$fx^2 + kx - 9x - 2 = 0 \rightarrow x^2 - (\alpha + \beta)x + \alpha\beta = x^2 - (1)x + (-2) = x^2 - x - 2$$

$$\rightarrow (x^2 - x - 2)(P_1 + 9) \rightarrow P_1 x^2 - P_1 x + 9x^2 - 9x - 2P_1 x - 2P_1$$

$$\rightarrow P_1 x^2 + (9 - P_1)x^2 + (-9 - 2P_1)x - 2P_1 \rightarrow P_1(9 - P_1)x^2 - (9 + 2P_1)x - 2P_1$$

$$\Rightarrow k = 9 - f \rightarrow 1 - f = -3 \checkmark \rightarrow -9 - 2P_1 = -1 \Rightarrow 9 = 2P_1$$

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$$x^2 + 9x + a = 0 \quad A = \alpha\beta = a(-9 - a) = -\alpha^2 - 9\alpha \rightarrow -(\alpha^2 + 9\alpha + \frac{81}{4}) + \frac{81}{4} = -(\alpha + \frac{9}{2})^2 + \frac{81}{4}$$

$$\alpha < \beta < 0 \quad \Rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{-9}{a} = \frac{1}{\sqrt{3}} \Rightarrow a = -9\sqrt{3}$$

$$2\alpha^2 + 2\beta^2 = 12\sqrt{3} + 18 \rightarrow 2(\alpha^2 + \beta^2) = 12\sqrt{3} + 18 \Rightarrow \alpha^2 + \beta^2 = 6\sqrt{3} + 9$$

$$\alpha + \beta = -9, \alpha\beta = A$$

$$\beta = -9 - \alpha$$

$$\Rightarrow \alpha^2 + (-9 - \alpha)^2 = 6\sqrt{3} + 9 \Rightarrow \alpha^2 - 18\alpha + 81 = 6\sqrt{3} + 9 \Rightarrow \alpha^2 - 18\alpha + 72 = 6\sqrt{3}$$

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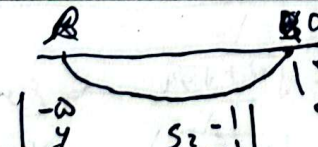
$$x^2 - 12x^2 - 8 = 0 \rightarrow x^2 = \frac{8}{11}, -\frac{8}{11} \rightarrow x = \pm \sqrt{\frac{8}{11}}$$

$$2P^2 - 3SP + 3S = 0 \Rightarrow \left(-\frac{\sqrt{V+569}}{2}\right) \left(\frac{\sqrt{V+569}}{2}\right) = \frac{-V-569}{2}$$

$$\rightarrow S = 0, P = \frac{V-569}{2} \Rightarrow 2P^2 - 3SP + 3S = 0 \checkmark$$

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$$a = \frac{-24 - \sqrt{144 + 24 \cdot \sqrt{3}}}{1}, B = \frac{-24 + \sqrt{144 + 24 \cdot \sqrt{3}}}{1}$$

$rA^r - aA + b = 0$ $rA^r + aA - b = 0$ $\left[\frac{ab}{r}\right], \left[\frac{-r}{r}\right], -r \rightarrow \left[\frac{(1/r) \cdot (-r)}{r}\right] = \boxed{-1} \checkmark$ $\alpha + B = \alpha' + B' + 1 \rightarrow \frac{\alpha}{r} = \frac{-r}{ra} + 1 \rightarrow \frac{1}{r} \rightarrow \alpha = 1 \rightarrow rA^r + A - b = 0$ $\rightarrow \alpha', B' = -r, \frac{r}{r} \rightarrow \alpha, B = \frac{r}{r}, -r \rightarrow \frac{b}{r} = \alpha B \Rightarrow b = -r$	(2) 6
$aA^r - aA - b = 0 \rightarrow \alpha + B = 1$ $r \cdot B^r + r \cdot \alpha^r - r \cdot B = 1V \quad \alpha B = \frac{b}{a} \rightarrow \frac{b}{a} = -\frac{1}{r_0}$ $r \cdot B^r + r \cdot \alpha^r + r \cdot B^r - r \cdot B = 1V$ $r \cdot [(a+B)^r - r\alpha B] + r \cdot (B^r - B) = 1V$ $r \left(1 + \frac{r \cdot b}{a}\right) + r \cdot \frac{b}{a} = 1V$ $(a-b)^r = (a+B)^r - r\alpha B = 1 - \frac{1}{a} = \frac{r}{a} \rightarrow \alpha - B = \frac{r}{\sqrt{a}} = \frac{r\sqrt{a}}{a} \checkmark$	(2) 7
	0 A
$A^r + A - 1 - m^r = 0 \rightarrow \alpha + B = -1, \alpha B = -1 - m^r$ $\alpha^r + B^r = ? \rightarrow (\alpha + B)^r - r\alpha B = (-1)^r - r(-1 - m^r) = 1 + r + rm^r = r + rm^r$ $\min(\alpha^r + B^r) = r \rightarrow r + r(0) = \boxed{r} \checkmark$ $m = 0 \leftarrow m^r = 0$ (مقدار صفر)	(2) 9
$A(r, y)$ $B(-a, y)$ $\alpha^r + B^r = a$  $\frac{\alpha + B}{r} = \frac{-a + r}{r} = -1$ $\alpha + B = -r \rightarrow -\frac{r}{r} = -1$ $\alpha^r + B^r = a \rightarrow (\alpha + B)^r - r\alpha B = a \rightarrow \alpha B = -\frac{1}{r} \rightarrow y = a \left(r^r + r \cdot \frac{1}{r} \right) = a \left(1 + r - \frac{1}{r} \right) \rightarrow a = \frac{r}{r}, y = -\frac{r}{r} \left(r^r + r \cdot \frac{1}{r} \right) = y = \frac{1}{r} \checkmark$	(2)

$$u^2 - (a+1)u + a = 0 \xrightarrow{\text{جمع ضرایب منفرد}} \begin{cases} u_1 = 1 \\ u_2 = a \end{cases}$$

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دو عدد فرد متوالی $a = 3 \leftarrow p = 3$

$$u^2 - (3a+1)u + b = 0 \xrightarrow{a=3} u^2 - 10u + b = 0$$

$$S = a + a + 2 = 10 \rightarrow a = 4$$

ریشه ها a و $a+2 \leftarrow$

$$p = f(4) = 24$$

دو عدد زوج متوالی

$$\text{اصلاف} = 24 - 3 = \boxed{21}$$