

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۲۳ کلاس ۸م *سید*

$$\begin{aligned} \text{Next } &= \frac{-b}{r_a} = -1 \Rightarrow b = r_a \quad , \quad \text{في } (r, 1) \mid (-1, q) \xrightarrow{\text{حاصل ضرب}} \left. \begin{aligned} 1 &= 9a + 3b + c \\ q &= a - b + c \end{aligned} \right\} \Rightarrow \begin{aligned} -1 &= 1a + 3b \\ -2 &= r_a + b \end{aligned} \\ \xrightarrow{b=r_a} & \begin{aligned} a &= -\frac{1}{r} \\ b &= -1 \end{aligned} \quad \Rightarrow \quad q = -\frac{1}{r} + 1 + c \Rightarrow c = \frac{1+1-r}{r} = \frac{1-r}{r} \end{aligned}$$

$$\Rightarrow y = -\frac{1}{r}x^r - n + \frac{14}{r}$$

$3m^2 + m^2 + m + 4 = 0, \quad + \dots \Rightarrow \begin{cases} P > 0 \\ S > 0 \\ \Delta > 0 \end{cases} \rightarrow \begin{cases} P \rightarrow \frac{m+4}{r} > 0 \Rightarrow m > -4 \\ S \rightarrow \frac{-m}{r} > 0 \Rightarrow m > 0 \end{cases}$

$\Delta \rightarrow m^2 - 1m - f > 0$

$(m-1)(m+f) > 0$

$m = (-4, -f)$ ✓

$$\alpha + \beta = \frac{1}{\alpha\beta}, \quad r_m^2 + (r_m - 1)m + r - m = 0 \Rightarrow \left. \begin{aligned} \alpha + \beta &= -\frac{b}{a} = -\frac{r_m + 1}{r} \\ \alpha\beta &= \frac{c}{a} = \frac{r - m}{r} \end{aligned} \right\} \Rightarrow$$

$$\frac{-r_m + 1}{r} = \frac{\frac{1}{\alpha\beta}}{\frac{r - m}{r}} \Rightarrow r_m^2 - \alpha m + r = 9$$

$$\Rightarrow r_m^2 - \alpha m - 1 = 0$$

$$\Rightarrow m = \frac{\alpha \pm \sqrt{\alpha^2 - 4}}{2}$$

$$\begin{cases} m = -1 \\ m = \frac{\alpha}{r} \end{cases} \quad \checkmark$$

مقادیر $\alpha = -1$ و $\alpha = \frac{r}{r}$ را در معادله $r_m^2 - \alpha m - 1 = 0$ قرار دهیم.

برای $m = -1$:

$$r_m^2 - (-1) - 1 = 0 \Rightarrow r_m^2 = 0 \Rightarrow r_m = 0$$

برای $m = \frac{\alpha}{r}$:

$$r_m^2 - \frac{\alpha}{r} - 1 = 0 \Rightarrow r_m^2 = \frac{\alpha}{r} + 1$$

از آنجا که r_m عدد صحیح است، پس $\frac{\alpha}{r} + 1$ باید مربع کامل باشد.

برای $\alpha = -1$ و $r = 1$:

$$r_m^2 = \frac{-1}{1} + 1 = 0 \Rightarrow r_m = 0$$

برای $\alpha = \frac{r}{r} = 1$ و $r = 1$:

$$r_m^2 = \frac{1}{1} + 1 = 2 \Rightarrow r_m = \pm \sqrt{2}$$

پس تنها جواب صحیح $m = -1$ است.

$$u^r - u - f = 0 \quad S' = u_r^r + \frac{1}{n_1} + u_1^r + \frac{1}{n_r} = \underbrace{u_1^r + u_r^r}_{S' - r_{sp}} + \frac{n_r + n_1}{n_1 n_r} =$$

$$P' = \left(u_r^r + \frac{1}{n_1}\right) \left(u_1^r + \frac{1}{n_r}\right) = u_r^r + n_1^r + \underbrace{u_r^r + u_1^r}_{S' - r_{sp}} + \frac{1}{n_1 n_r} = -9f + 9 - \frac{1}{f} = -\frac{r_{r1}}{f}$$

$$y = u^r - S' u + P' \longrightarrow u^r - \frac{d}{f} u - \frac{r_{r1}}{f} = 0 \Rightarrow \boxed{f u^r - d u - r_{r1} = 0} \quad \checkmark$$

$$\sqrt[n]{n} = t \Rightarrow \left(t^r + \frac{1}{t^r} + 1 \right) (t^r - 1) = rt \Rightarrow \frac{t^r + t^r + 1}{t^r} (t^r - 1) = rt$$

$$\Rightarrow \frac{t^r - 1}{t^r} = rt \Rightarrow t^r = t^r - 1 \xrightarrow{t^r = n} n^r - r'n - 1 = 0 \Rightarrow n = 1 \pm \sqrt{r}$$

$$\Rightarrow \left. \begin{matrix} n_1 = 1 + \sqrt{r} \\ n_2 = 1 - \sqrt{r} \end{matrix} \right\} \Rightarrow n_1 + n_2 = 1 + \sqrt{r} + 1 - \sqrt{r} = \boxed{2} \quad \checkmark$$

$$m_1 = 3m_2, \quad m_1 m_2 = \frac{c}{a} = \frac{f}{3} \Rightarrow 3m_2^2 = \frac{f}{3} \Rightarrow m_2^2 = \frac{f}{9} \Rightarrow m_2 = \pm \frac{\sqrt{f}}{3}$$

$$\Rightarrow m_1 = \pm \frac{\sqrt{f}}{3}$$

$$m_1 + m_2 = -\frac{b}{a} = \frac{a}{3} \Rightarrow$$

$$2 + \frac{\sqrt{f}}{3} = \frac{a}{3} \Rightarrow a = 1$$

$$-2 - \frac{\sqrt{f}}{3} = -\frac{1}{3} \Rightarrow a = -1$$

$$\left. \begin{array}{l} \Rightarrow a = 1 \\ \Rightarrow a = -1 \end{array} \right\} \ominus \quad 1 - (-1) = \boxed{2} \checkmark$$

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دو دایره $\pm (a - \frac{3}{2})^2 > 0 \Rightarrow a > \frac{3}{2}$
 و یک دایره $(a - \frac{3}{2})^2 = 0 \Rightarrow a = \frac{3}{2}$
 و هیچ دایره $(a - \frac{3}{2})^2 < 0 \Rightarrow a < \frac{3}{2}$

$$\Delta > 0 \rightarrow (3+2a)^2 - 4(a \times 0) = 9 + 12a + 4a^2 > 0 \Rightarrow (a + \frac{3}{2})^2 > 0 \Rightarrow a > -\frac{3}{2}$$

$$\Delta = 0 \rightarrow \frac{3-2a}{a} > 0 \Rightarrow -3-2a > 0 \Rightarrow 2a < -3 \Rightarrow a < -\frac{3}{2}$$

$$\Delta < 0 \rightarrow \frac{3-2a}{a} < 0 \Rightarrow -3-2a < 0 \Rightarrow 2a > -3 \Rightarrow a > -\frac{3}{2}$$

$$p = 0 \rightarrow \frac{c}{a} = \frac{0}{a} = 0 \checkmark \Rightarrow \boxed{\frac{3}{2} < a < -\frac{3}{2}}$$

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$$\Delta > 0 \Rightarrow \frac{-a}{2} = \frac{2}{-2} \Rightarrow a = 2 \Rightarrow \textcircled{1} y = -x^2 - 2x + 2$$

$$\textcircled{2} y = x^2 + 2x - 2$$

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

$$ab = f \times 2 = \boxed{1} \checkmark$$

$$1 = -9 - 2(-3) + b \Rightarrow b = 4$$



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$$m = t + \frac{1}{t} \rightarrow 2m^2 - am + b = 0 \rightarrow 2\left(t + \frac{1}{t}\right)^2 - a\left(t + \frac{1}{t}\right) + b = 0$$

$$2a + \frac{2}{a} + \frac{a}{2} - 4 = 0$$

$$2a = 2 \Rightarrow a = 1$$

$$b \Rightarrow b = -4$$

$$\left[\frac{-4 \pm 1}{2} \right] = \left[1, -5 \right] = \boxed{-2} \checkmark$$

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$$\begin{cases} m^2 + 2m - 3m = 0 \\ m^2 + 4m + m = 0 \end{cases} \Rightarrow \Delta = 0 \Rightarrow \begin{cases} 4m + 6m = 0 \\ 5m + 4m = 0 \end{cases} \Rightarrow m + m = 0 \Rightarrow m = -m$$

$$m^2 + 4m + 5 = 0 \Rightarrow (m+1)(m+5) = 0$$

$$\Rightarrow m \rightarrow -1, -5$$

$$m^2 + 2m - \frac{1}{3} = 0 \Rightarrow m \rightarrow \frac{-2 \pm \sqrt{4 + \frac{4}{3}}}{2} = \frac{-2 \pm \sqrt{\frac{16}{3}}}{2} = \frac{-2 \pm \frac{4}{\sqrt{3}}}{2} = -1 \pm \frac{2}{\sqrt{3}}$$

$$3 - (-1) = \boxed{4} \checkmark$$

$$\Rightarrow m^2 + 4m - m = 0 \Rightarrow m^2 + 3m = 0 \Rightarrow m(m+3) = 0 \Rightarrow m = 0, -3$$

$$m^2 + 5m = 0 \Rightarrow m(m+5) = 0 \Rightarrow m = 0, -5$$

$$m(m+5) = 0$$

$$m \rightarrow \frac{-5 \pm \sqrt{25}}{2} = \frac{-5 \pm 5}{2} \Rightarrow m = 0, -5$$

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۷- چون عرض از قبه صغره a باید مثبت باشد تا از ناحیه دوم

نگذرد! $a > 0$ (۱)

$$S > 0 \rightarrow -\frac{3+2a}{a} > 0 \rightarrow \frac{-\frac{3}{2}}{-1+1-} \rightarrow -\frac{3}{2} < a < 0 \quad (2)$$

$$(1) \cap (2) \rightarrow \emptyset$$