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نام و نام خانوادگی (مسابقات) پاسخنامه تشریحی تکلیف شماره ۱۸ کلاس

$$V = -\left(\frac{b^2}{r}\right) + b\left(\frac{b}{r}\right) + 3 \Rightarrow V = -\frac{b^2}{r} + \frac{b^2}{r} + 3 \rightarrow \varepsilon = \frac{b^2}{r} - \frac{b^2}{r} \rightarrow b^2 = \varepsilon \times \varepsilon$$

$$\frac{b^2}{\varepsilon} = \varepsilon$$

$$b = \pm \sqrt{14} = \pm \varepsilon$$

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$$\text{الف) } x^2 = t \rightarrow t^2 + 2t + 3 = f(x) \rightarrow \Delta < 0$$

اساندر

$$\text{ب) } (\varepsilon - x^2) = t \rightarrow t^2 - 2t - 1 = 0 \quad (t - 1)(t + 3) = 0 \rightarrow \begin{matrix} t = 1 \\ \varepsilon = -3 \end{matrix}$$

$$\varepsilon - x^2 = -3 \rightarrow x^2 = 4 \rightarrow x = \pm \sqrt{4}$$

$$\varepsilon - x^2 = 0 \rightarrow x^2 = 1 \cup \emptyset$$

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$$\alpha, \beta = \alpha + 2 \quad S = 2\alpha + 2 = 8 \quad \begin{matrix} 2\alpha = 6 \\ \alpha = 3 \end{matrix} \quad \beta = 1 + 2 = 3$$

$$P = \frac{m}{2} = 3 \rightarrow m = 6$$

$$P_m^2 - 14m + 12 = 0 \quad \Delta > 0 \checkmark$$

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$$S = \begin{cases} \alpha + \beta = 2 \\ 2\alpha - \beta = 8 \end{cases} \Rightarrow \begin{matrix} 3\alpha = 10 \\ \alpha = \frac{10}{3} \\ \beta = 0 \end{matrix} \quad P = \frac{m-1}{2} = 0$$

$$\begin{matrix} m-1 = 0 \\ m = 1 \end{matrix}$$

$$P_m^2 - 14m = 0 \quad \Delta > 0 \checkmark$$

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$$\alpha, \frac{1}{\alpha} = \beta \quad P = \alpha \times \frac{1}{\alpha} = 1 \quad \frac{m^2 - 2}{-m} = 1 \rightarrow m^2 - 2 = -m$$

$$m^2 + m - 2 = 0 \quad \begin{matrix} \varepsilon = -2 \\ 1 \end{matrix} \quad \begin{matrix} m = -2 \quad \Delta < 0 \times \\ m = 1 \quad \Delta > 0 \checkmark \end{matrix}$$

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$$\alpha\beta = 1 \rightarrow \alpha\beta^r = 1 \rightarrow \alpha\beta^r = \varepsilon$$

$$\alpha\beta^r = \varepsilon \Rightarrow \beta = \frac{\varepsilon}{\alpha}$$

$$\alpha = \frac{1}{\varepsilon}$$

$$S = \alpha + \beta = \frac{1}{\varepsilon} + \frac{\varepsilon}{1} = \frac{1 + \varepsilon^2}{\varepsilon}$$

$$S = +m = \frac{\varepsilon^2}{1}$$

$$2x^2 - \frac{F^2}{1} + 1 \rightarrow \Delta > 0 \checkmark$$

$$\alpha \beta = 1 \rightarrow \alpha\beta^r = 1 \rightarrow \alpha\beta^r = m \rightarrow m = 1$$

$$S = \alpha + \beta = \varepsilon \alpha \rightarrow \varepsilon \alpha = \varepsilon \rightarrow \alpha = 1$$

$$2x^2 - 2x + 1 \rightarrow \Delta > 0 \checkmark$$

$$\alpha \rightarrow \alpha^2 - 10\alpha + 1 = 0 \rightarrow \alpha - 10 + \frac{1}{\alpha} = 0 \rightarrow \alpha + \frac{1}{\alpha} = 10$$

$$\alpha^2 + \frac{1}{\alpha^2} \rightarrow \alpha^2 + \left(\frac{1}{\alpha}\right)^2 \rightarrow \left(1 + \frac{1}{\alpha}\right)\left(\alpha^2 - 10 + \frac{1}{\alpha}\right) = 10(10 - 1) = 90$$

$$t_{max} = -\frac{b}{2a} = -\frac{-10}{-2} = 5$$

$$h_{max} = h(5) = -10(5) + 10(5) = 25$$

$$h(t) = -10(t) + 10(t) \rightarrow h_{max} = 25$$

$$y = 0 \rightarrow -10t + 10 = 0 \rightarrow t = 1$$

$$t = 0 \rightarrow 10 = 0 \rightarrow t = 10$$

