

۲۰ آفرین!

$$\frac{-\Delta}{4a} = V \Rightarrow \frac{-(b^2 + 12)}{4} = V \Rightarrow b^2 + 12 = 18 \Rightarrow b^2 = 6 \Rightarrow b = \pm \sqrt{6}$$

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$$x^2 = t \Rightarrow t(x) = t^2 + 2t + 3 \rightarrow \Delta < 0 \quad \checkmark$$

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$$(t - x^2) = t \Rightarrow f(x) = t^2 - 2t - 1 \rightarrow t = 1, t = -3$$

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$$t - x^2 = 1 \rightarrow x^2 = t - 1 \quad \text{قق} \quad / \quad t - x^2 = -3 \rightarrow x^2 = t + 3 \Rightarrow x = \pm \sqrt{t+3} \quad \checkmark$$

$$\beta = \alpha + 2 \quad \alpha + \beta = \frac{b}{a} = \frac{16}{5} = 3.2 \rightarrow \alpha + \alpha + 2 = 3.2 \Rightarrow \alpha = 0.6$$

$$\alpha\beta = 3 \Rightarrow \frac{c}{a} = 3 \Rightarrow \frac{m}{c} = 3 \Rightarrow m = 12 \quad \checkmark$$

$$\beta = 3 \quad \checkmark$$

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$$2\alpha - \beta = 5 \Rightarrow \beta = 2\alpha - 5 \quad \alpha + \beta = \frac{-4}{-1} = 4$$

$$\alpha + \beta = 4 \rightarrow \alpha + 2\alpha - 5 = 4 \Rightarrow 3\alpha = 9 \rightarrow \alpha = 3, \beta = 1$$

$$\alpha\beta = 0 \Rightarrow \frac{c}{a} = 0 \Rightarrow m - 1 = 0 \Rightarrow m = 1 \quad \checkmark$$

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$$\alpha\beta = 1 \Rightarrow \frac{c}{a} = 1 \Rightarrow \frac{m^2 - 2}{-m} = 1 \Rightarrow m^2 - 2 = -m$$

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

$$\Delta > 0 \xrightarrow{m=-2} 2x^2 + 4x + 2 \rightarrow \Delta = 0 \quad \times$$

$$\Delta > 0 \xrightarrow{m=1} -x^2 + 4x - 1 \rightarrow \Delta = 12 \quad \checkmark$$

$$\begin{cases} m = -2 \quad \text{قق} \\ m = 1 \quad \text{قق} \quad \checkmark \end{cases}$$

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$$\alpha\beta = \frac{c}{a} \in \mathbb{R}$$

$$\alpha\beta \in \mathbb{R} \rightarrow \alpha\beta \times \beta \in \mathbb{R} \rightarrow \beta = \frac{b}{a}, \alpha = \frac{c}{b}$$

$$\alpha + \beta = \frac{c}{b} + \frac{a}{b} = \frac{14 + 12}{12} = \frac{26}{12} \in \frac{\mathbb{R}}{12} \Rightarrow m = \frac{26}{12} \checkmark$$

$$\alpha + b = \frac{-b}{a} \in m$$

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$$\alpha = \sqrt[3]{\beta}$$

$$\alpha + \beta = \frac{-b}{a} \in \mathbb{R} \rightarrow \sqrt[3]{\beta} + \beta \in \mathbb{R} \rightarrow \beta \in 1, \alpha \in \sqrt[3]{1}$$

$$\alpha/\beta = \sqrt[3]{1} = \sqrt[3]{1} = \frac{c}{a} \Rightarrow m = \sqrt[3]{1} \checkmark$$

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$$\alpha\beta \in \mathbb{R} \Rightarrow \alpha^m \beta^m = 1 \rightarrow \beta^m = \frac{1}{\alpha^m} \Rightarrow \alpha^m + \frac{1}{\alpha^m} = \alpha^m + \beta^m$$

$$\alpha^m + \beta^m = 5^m - 15^m \in \mathbb{R} \Rightarrow 5^m - 15^m \in \mathbb{R} \Rightarrow 5^m - 15^m \in \mathbb{R} \Rightarrow 5^m - 15^m \in \mathbb{R} \checkmark$$

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$$f(h) = -10h^2 + 40h \rightarrow \max_c = \frac{-\Delta}{2a} = \frac{-(40 \dots)}{2 \cdot (-10)} = \frac{(40)}{2} \checkmark$$

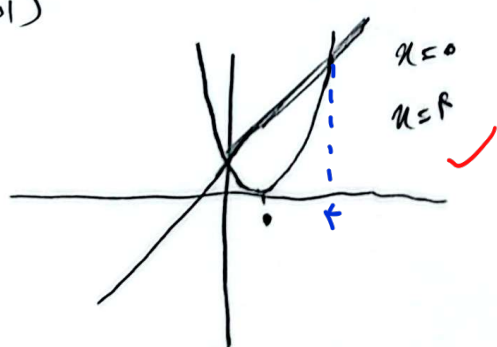
$$-10h^2 + 40h \leq 0 \rightarrow h(40 - 10h) \leq 0$$

$$\epsilon \leq 40 \checkmark$$

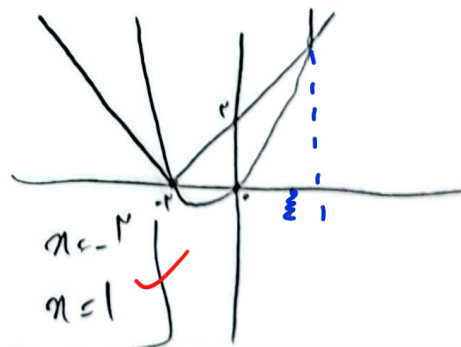
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