

نام و نام خانوادگی: (البنای) پاسخنامه تشریحی تکلیف شماره ۱۴ کلاس ۱۳۰۰

$$y = -ax^2 + bx + c$$

$$\text{max } 2V \Rightarrow -\frac{\Delta}{\epsilon a} = V \Rightarrow \frac{b^2 - 4ac}{4a} = V \Rightarrow b^2 - 4ac = 14 \Rightarrow b = \pm 4$$

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$$f(m) = a \epsilon + m^2 + c \xrightarrow{\text{نقطه}} t^2 + 2t + 1 = 0$$

$$\Rightarrow \Delta = b^2 - 4ac \rightarrow \epsilon - 14 = -1 < 0$$

(برای) $\Delta < 0$

$$f(m) = (\epsilon - m^2) - 2(\epsilon - m^2) - 1 = 0$$

$$\xrightarrow{\epsilon - m^2 = t} t^2 - 2t - 1 = 0 \Rightarrow (t - 3)(t + 1) = 0$$

$$\epsilon - m^2 = 3 \Rightarrow m^2 = \epsilon - 3$$

$$\epsilon - m^2 = -1 \Rightarrow m^2 = \epsilon + 1 \Rightarrow m = \pm \sqrt{\epsilon + 1}$$

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$$4m^2 - 14m + m = 0$$

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$$S = -\frac{b}{a} = \frac{14}{4} = 3.5 = \alpha + \beta + \gamma \Rightarrow \boxed{\alpha = 1} \Rightarrow \alpha + \beta + \gamma = 3.5$$

$$P = \frac{c}{a} = \frac{m}{4} \Rightarrow \boxed{m = 14}$$

$4m^2 - 14m + m = 0$
 $\Delta > 0$

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$$4m^2 - 14m + m = 0$$

$$2\alpha - \beta = 4$$

$$S = -\frac{b}{a} = 2 \Rightarrow \alpha + \beta = 2$$

$$3\alpha = 4 \Rightarrow \alpha = \frac{4}{3} \quad \beta = 0$$

$$P = \frac{c}{a} = \frac{m-1}{4} = 2 \Rightarrow m-1 = 8 \Rightarrow \boxed{m = 9}$$

$$4m^2 - 14m + m = 0 \Rightarrow \Delta > 0$$

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$$-m^2 + \epsilon m + m^2 - 2 = 0 \Rightarrow \text{از دو طرف به هم می‌زنیم}$$

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

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

$$2m^2 + \epsilon m + 2 = 0 \Rightarrow \Delta > 0$$

$$-m^2 + \epsilon m - 1 = 0 \Rightarrow \Delta > 0$$

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$$x^2 - m x + 12 = 0$$

$$\alpha \beta = 12$$

m?

$$P = \frac{C}{a} \cdot 12 = \alpha \cdot \beta$$

$$\frac{\alpha \beta}{\alpha \beta} = \frac{\Sigma}{12} = \beta \rightarrow \alpha = \frac{9}{\beta}$$

1, 109

$$S = \frac{9}{\Sigma} + \frac{\Sigma}{12} = \frac{12 + 14}{12} \cdot \frac{\Sigma}{12} = -\frac{b}{a} = m = \frac{12 \cdot 14}{12} \quad 2x^2 - \frac{12 \cdot 14}{12} + 12 = 0 \quad \checkmark$$

$$x^2 - 5x + m = 0$$

1, 109
در صورتی که α, β ریشه‌ها باشند

$$S = -\frac{b}{a} = 5 = \alpha + \beta \rightarrow \alpha = 1, \beta = 4$$

1, 109

$$P = \frac{C}{a} \cdot m = 1 \times 4 = 4 = m \quad 2x^2 - 5x + 4 = 0 \quad \checkmark$$

$$x^2 - 12x + 12 = 0$$

$$\alpha + \beta = 12$$

در صورتی که α, β ریشه‌ها باشند

$$P = \frac{C}{a} \cdot 12 = \alpha \cdot \beta \Rightarrow \beta = \frac{12}{\alpha} \Rightarrow \beta = \frac{12}{\alpha} \quad (1)$$

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$$\alpha + \frac{12}{\alpha} = 12 \Rightarrow \alpha^2 + 12 = 12\alpha \Rightarrow \alpha^2 - 12\alpha + 12 = 0 \Rightarrow \alpha = 12 \pm \sqrt{144 - 12} = 12 \pm 11 \Rightarrow \alpha = 1, 23$$

$$h(t) = -1.5t^2 + 4.5t$$

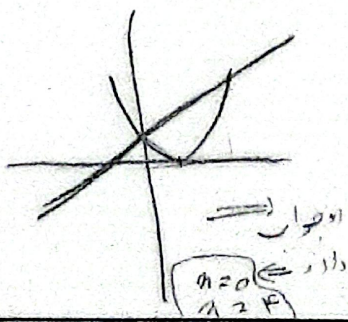
max?

$$h(t) = -1.5t^2 + 4.5t = 0 \Rightarrow t = 0, 3$$

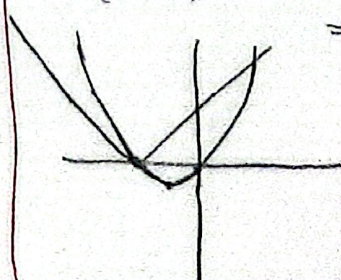
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$$max = -\frac{\Delta}{2a} = \frac{4.5^2}{2 \cdot 1.5} = 6.75$$

$$(n-1)^2 = 2n + 1$$



$$n^2 + 2n = 1 \Rightarrow n^2 + 2n - 1 = 0$$



$$\Rightarrow \begin{cases} n = -1 \\ n = 1 \end{cases}$$

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