

۱۹,۷۵ آفرین!

نام و نام خانوادگی: پاسخنانه تشریحی تکلیف شماره کلاس: سبب: B

$$y = -x^2 + bx + 3$$

$$x_5 = \frac{-b}{-2} = \frac{b}{2} \xrightarrow{\text{میدار}} -\frac{b^2}{4} + \frac{b^2}{2} + 3 = 7 \Rightarrow \frac{-b^2 + 2b^2}{4} = 4 \Rightarrow \frac{b^2}{4} = 4 \Rightarrow b^2 = 16 \Rightarrow b = \pm 4$$

$$b = 4$$

$$f(x) = x^2 + 2x + 3 \quad x^2 = t$$

$$t^2 + 2t + 3 \rightarrow \Delta \geq 0 \Rightarrow \text{ریشه دارد}$$

$$f(x) = (4-x^2)^2 - 2(4-x^2) - 15 \Rightarrow$$

$$t^2 - 2t - 15 = 0 \Rightarrow (t-5)(t+3) = 0$$

$$t = 4 - x^2 = 5 \Rightarrow x^2 = -1 \quad \text{غیرممکن}$$

$$t = 4 - x^2 = -3 \Rightarrow x^2 = 7 \Rightarrow x = \pm \sqrt{7}$$

$$\Delta \geq 0 \Rightarrow 256 - 144m \geq 0 \Rightarrow 256 \geq 144m \Rightarrow m \leq \frac{16}{9}$$

$$\beta = \alpha + 2$$

$$S = 8 = 2\alpha + 2 \Rightarrow \alpha = 1, \beta = 3 \Rightarrow \rho = 3 \Rightarrow m = 12$$

در جواب سوال

$$2\alpha - \beta = 8 \Rightarrow 2\alpha = 8 + \beta \Rightarrow \alpha = \frac{8 + \beta}{2}$$

$$3x^2 - 4x + m - 1 \xrightarrow{S} x' = x + \frac{\beta}{2} + \beta \Rightarrow \frac{\beta + 2\beta}{2} = 0 \Rightarrow \beta = 0, \alpha = 2 \Rightarrow$$

$$\rho = 0 \Rightarrow m - 1 = 0 \Rightarrow m = 1$$

$$\Delta \geq 0 \Rightarrow 36 - 12m + 12 \geq 0 \Rightarrow 48 - 12m \geq 0 \Rightarrow 48 \geq 12m \Rightarrow m \leq 4$$

$$\Delta \geq 0 \Rightarrow 144 + 48m - 144m \geq 0 \Rightarrow 144 - 96m \geq 0 \Rightarrow 144 \geq 96m \Rightarrow m \leq \frac{3}{2}$$

$$\rho = 1 \Rightarrow -\frac{m^2 + 2}{m} = 1 \Rightarrow m^2 + m - 2 = 0 \Rightarrow m = -2, 1 \Rightarrow m = 1$$

غیرممکن ← با توجه به شرط

$$\Delta \gamma_0 \Rightarrow m^2 - 12 \gamma_0 \Rightarrow m < -2\sqrt{3} \text{ یا } m > 2\sqrt{3} \quad (A)$$

$$\alpha \beta^2 = \varepsilon \Rightarrow \alpha \gamma_0$$

$$\rho = \gamma = \alpha \beta \xrightarrow{\times \beta} \varepsilon \Rightarrow \boxed{\beta = \frac{\varepsilon}{\gamma}} \Rightarrow \boxed{\alpha = \frac{9}{\varepsilon}} \Rightarrow S = \frac{14 + 27}{12} = \frac{\varepsilon 2}{12} \quad \checkmark$$

$$m = \frac{\varepsilon 3}{12} \rightarrow \text{در قسمت A مقادیر صحیح است} \quad \checkmark$$

$$x^2 - \varepsilon x + m \Rightarrow \Delta \gamma_0 \Rightarrow 14 - \varepsilon m \gamma_0 \Rightarrow \varepsilon \gamma m \quad (A)$$

$$\beta = 3\alpha, S = \varepsilon = \varepsilon \alpha \Rightarrow \boxed{\alpha = 1, \beta = 3} \Rightarrow \rho = 3 \Rightarrow m = 3 \quad \checkmark \rightarrow \text{در قسمت A مقادیر صحیح است} \quad \checkmark$$

$$\alpha^2 \beta^2 + 3\alpha^2 \rho + 3\beta \alpha^2 \rho + 3\alpha \rho^2 (\alpha + \beta) \quad S^3 = \alpha^3 + \beta^3 + 3\alpha\beta\rho$$

$$x^2 - 7x + 2 = 0$$

$$\rho = 2 = \alpha \beta \Rightarrow \left(\beta = \frac{2}{\alpha} \right)^3 = \beta^3 = \frac{1}{\alpha^3} \Rightarrow \alpha^3 + \beta^3 = S^3 + 3\rho S$$

$$S = 7 \quad \xrightarrow{\text{جایگزینی}} \quad 3 \cdot 8 - 42 = 30 \quad \checkmark$$

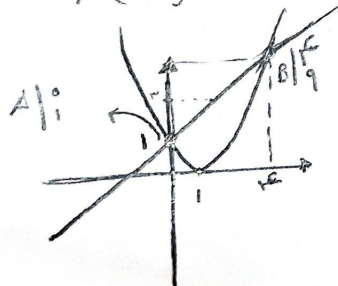
$$\rho = 2$$

$$h(t) = -1 \cdot t^2 + 5 \cdot t$$

$$h_{\max} \gamma_s = \frac{-5}{-2} = 2.5 \xrightarrow{\text{جایگزینی}} -92.5 + 125 = 32.5 \quad \checkmark$$

$$-1 \cdot t^2 + 5 \cdot t = 0 \Rightarrow t^2 - 5t = 0 \Rightarrow t = 0 \text{ یا } 5 \quad \checkmark$$

$$\text{الف) } (x-1)^2 = 2x+1 \Rightarrow x = 4 \text{ یا } 0 \quad \checkmark$$



$$\text{ب) } x^2 + 2x = |x+2| \Rightarrow x = -2 \text{ یا } 1 \quad \checkmark$$

