

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۹... کلاس: یادداشت:

۳۴ و ۴ → ریشه ها

$$3x^2 - ax + 1 = 0 \rightarrow S = \frac{a}{3}$$

$$S = 4a$$

$$P = 3a^2$$

$$3a^2 = \frac{4}{3} \rightarrow a^2 = \frac{4}{9} \rightarrow a = \pm \frac{2}{3}$$

ریشه ها $\frac{2}{3}$ و $-\frac{2}{3}$

$$\Rightarrow \frac{a}{3} \rightarrow \frac{2}{3} + r = \frac{1}{3} \rightarrow a = 1$$

$$\frac{-2}{3} - r = -\frac{1}{3} \rightarrow a = -1$$

$$1 - (-1) = 2 \rightarrow \text{جواب: } 2$$

$$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}} = \frac{\sqrt{a} + \sqrt{b}}{\sqrt{ab}} = \frac{\sqrt{S + 2\sqrt{P}}}{\sqrt{P}} = 2 \xrightarrow{\text{قوان}} \frac{S + 2\sqrt{P}}{P} = 2$$

$$S = \frac{m+12}{24}$$

$$P = \frac{1}{24}$$

$$\rightarrow \frac{m+12}{24} + \frac{12}{24} = 2 \rightarrow m + 12 = 20 \rightarrow m = 8$$

$$m x^2 + 3x + 1 = 0 \rightarrow \text{ضرب} = \frac{1}{m} = \frac{1}{-1} = -1 \rightarrow \text{جواب: } -1$$

$$a^2 + 2(a^2 + b^2) = 18 + 12\sqrt{2} \rightarrow a^2 + 2(S^2 - 2P) = 18 + 12\sqrt{2}$$

$$a = \frac{-4 - \sqrt{34 - 4a}}{2} \Rightarrow a^2 = \frac{34 + 34 - 4a + 12\sqrt{34 - 4a}}{4} \rightarrow \frac{12\sqrt{34 - 4a}}{4} = \sqrt{34 - 4a}$$

$$3\sqrt{34 - 4a} = \sqrt{34 - 4a} \rightarrow 34 - 4a = 34 \rightarrow a = 0 \rightarrow \text{جواب: } 0$$

چون در ریشه دارد پس تجربه این متداول یک معادله خط و یک معادله درجه دو با $\Delta = 0$ است:

$$(x-a)(2x-b)^2 = (x-a)(4x^2 - 4bx + b^2) \rightarrow 4x^3 + b^2x - 4bx^2 + (4a - b^2)x - b^2a + 4ax$$

$$\Rightarrow 4x^3 - 4bx^2 + (b^2 + 4a)x - b^2a = 4x^3 + kx^2 - 4x - 1$$

$$b^2 + 4a = -4 \rightarrow \frac{b^2}{a} + 4a = -4 \xrightarrow{\times a} b^2 + 4a^2 + 4a = 0 \rightarrow 4a^2 + 4a + 1 = 0$$

$$-a = k(*)$$

$$b^2a = 1 \rightarrow b^2 = \frac{1}{a}$$

$$k = \frac{1}{a} \rightarrow \frac{1}{a} = \frac{1}{a} \rightarrow a = 1 \rightarrow \text{جواب: } 1$$

$$x^2 = t \quad t^2 - 7t - 8 = 0 \rightarrow t = \frac{7 \pm \sqrt{49}}{2} \rightarrow \frac{7 - \sqrt{49}}{2} < 0 \text{ غرض}$$

$$x = \pm \sqrt{\frac{7 + \sqrt{49}}{2}} \rightarrow S = 0 \quad P = -\frac{7 + \sqrt{49}}{2}$$

$$2P^2 - 3SP + 2S = 2x \frac{49 + 49 + 12\sqrt{49}}{4} = 89 + 7\sqrt{49} \rightarrow \text{جواب: } 89 + 7\sqrt{49}$$

$$2m^c - ax + b = 0 \rightarrow \text{ریشه ها: } \alpha + 0, \delta, \beta + 0, \delta$$

$$2ax^c + ax - 4 = 0 \rightarrow \text{ریشه ها: } \alpha, \beta$$

$$\rightarrow \alpha + \beta = \frac{-a}{2a} = -\frac{1}{2} \rightarrow \alpha + 0, \delta + \beta + 0, \delta = \alpha + \beta + 1 = -\frac{1}{2} = \frac{a}{2} \rightarrow \boxed{a=1}$$

$$\rightarrow 4\beta = \frac{-4}{2a} = -\frac{4}{2} = -2 \rightarrow (0, \delta + \alpha)(0, \delta + \beta) = 0, \delta + \alpha + 0, \delta + \beta + \alpha\beta = -2$$

$$\Rightarrow \frac{b}{2} = -2 \rightarrow \boxed{b=-4} \quad \left[\frac{ab}{2} \right] = \left[\frac{-4}{2} \right] = -2 \rightarrow \text{جواب}$$

$$2 \cdot \beta^c + 2 \cdot \alpha^c + 2 \cdot \beta^c - 2 \cdot \beta = 17 \rightarrow 2 \cdot (\alpha^c + \beta^c) + 2 \cdot (\beta^c - \beta) = 17$$

$$2 \cdot (S^c - cP) + 2 \cdot (\beta^c - \beta) = 17$$

$$S=1 \quad P=\frac{-b}{a}$$

$$\beta^c - \beta = \beta(\beta - 1) = -\alpha\beta = -\left(\frac{-b}{a}\right) = \frac{b}{a} \quad \alpha + \beta = 1 \rightarrow \beta - 1 = -\alpha$$

$$\rightarrow 2 \cdot \left(1 + \frac{2b}{a}\right) + \frac{2 \cdot b}{a} = 2 + \frac{4 \cdot b}{a} = 17 \rightarrow \frac{b}{a} = \frac{15}{4}$$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{a^2 + 4ab}}{|a|} = \frac{1 \pm \sqrt{1 + 4 \cdot \frac{b}{a}}}{1} = \sqrt{1 + 4 \cdot \frac{15}{4}} = \sqrt{16} = 4 \rightarrow \text{جواب}$$

$$x^c - (a+1)x + a = 0 \rightarrow \text{ریشه ها: } \alpha, \alpha + c$$

$$S \Rightarrow c\alpha + c = a + 1 \rightarrow \alpha = \frac{a-1}{c}$$

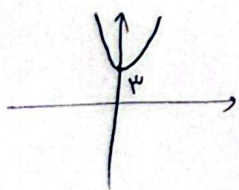
$$P \Rightarrow \alpha(\alpha + c) = \alpha^c + c\alpha = a \rightarrow \left(\frac{a-1}{c}\right)^c + a - 1 - a = 0 \rightarrow \frac{(a-1)^c}{c^c} - ca - c = 0 \rightarrow (a-1)(a+1) = 0$$

$$\rightarrow \alpha^c - cx + c = 0 \rightarrow \boxed{\alpha = 1, 3} \rightarrow \text{جواب های معادله اول} \quad 1 \times 3 = 3 \rightarrow \text{ضرب ریشه ها معادله اول} \quad a=3 \quad a=-1$$

$$P \Rightarrow \alpha^c - 10\alpha + b = 0 \rightarrow \text{ریشه ها: } y, y + c \Rightarrow 2y + c = 10 \rightarrow \boxed{y = 2, 4} \rightarrow \text{جواب های معادله دوم} \quad 2 \times 4 = 8 \rightarrow \text{ضرب ریشه ها معادله دوم} \quad 2c - c = c \rightarrow \boxed{c = 2}$$

$$x^c + x - 1 - m^c = 0 \rightarrow S = -1, P = -m^c - 1$$

$$\alpha^c + \beta^c \rightarrow S^c - cP \rightarrow 1 - 2(-m^c - 1) = 1 + 2m^c + 2 = 2m^c + 3$$



کمترین مقدار
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$$\boxed{3} \rightarrow \text{جواب}$$

$$\alpha_s = \frac{-\delta + 3}{2} = -1 \quad S(-1, 1) \quad y = a(x+1)^c + 1 \Rightarrow y = ax^c + 2ax + a + 1$$

$$\alpha^c + \beta^c = S^c - cP = 0 \Rightarrow \left(\frac{-ca}{a}\right)^c - 2\left(\frac{a+1}{a}\right) = 0 \Rightarrow c - 2\left(\frac{a+1}{a}\right) = 0$$

$$\frac{a+1}{a} = \frac{1}{2} \rightarrow -a = ca + c \rightarrow -2a = c \rightarrow \boxed{a = -\frac{c}{2}}$$

$$y = \frac{-c}{2}(x+1)^c + 1 \xrightarrow{x=0} = \frac{-c}{2} \times 1 + 1 = \boxed{\frac{1}{2}} \rightarrow \text{جواب}$$

$$\beta = 1 - \alpha \quad \alpha\beta = \alpha(1 - \alpha) = -2 \rightarrow \alpha = -1, 2$$

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$$\alpha = 2 \rightarrow K = -3$$

$$\alpha = -1 \rightarrow K = -3$$

α در معادله فوق میانه به این ترتیب K
را می یابیم