

14, 2

پاسخنامه تشریحی تکلیف شماره 13

نام و نام خانوادگی: کلاس: 13

$$y = (a-1)x^2 + x + 10 \xrightarrow{\text{نقطه } (1, 2)} \frac{-b}{2a} = 1a \rightarrow \frac{-1}{2a-2} = 1 \rightarrow \varepsilon a - \varepsilon = -1 \rightarrow a = \frac{1}{\varepsilon}$$

$$y = \frac{1}{\varepsilon}x^2 + x + 10 \rightarrow \Delta = 1 + 40 = 41 \rightarrow x = \frac{-1 \pm \sqrt{41}}{\frac{1}{\varepsilon}} \rightarrow x_1 = -2 \quad \boxed{x_2 = 4} \rightarrow \text{منبع}$$

1

$$f(x) = mx^2 - 2x + m \Delta > 0 \rightarrow 4 - 4m^2 > 0 \rightarrow \varepsilon m^2 < 2 \rightarrow m^2 < \frac{2}{\varepsilon}$$

$$\frac{x_1 - x_2}{-1 + 1} \rightarrow a < 0 \rightarrow m < 0 \quad \textcircled{2} \quad \textcircled{1} \quad \frac{-2}{\varepsilon} < m < \frac{2}{\varepsilon}$$

$$\textcircled{1} \textcircled{2} \rightarrow \frac{-2}{\varepsilon} < m < 0 \Rightarrow m \in (-\frac{2}{\varepsilon}, 0)$$

2

$$p = \frac{1-\sqrt{5}}{2} \times \frac{1+\sqrt{5}}{2} = \frac{1-5}{4} = -1$$

$$S = \frac{1-\sqrt{5}}{2} + \frac{1+\sqrt{5}}{2} = \frac{2}{2} = 1$$

$$y = x^2 - 5x + p$$

$$y = x^2 - 4x + \frac{4}{\varepsilon} \xrightarrow{\times 4} \text{ضرایب صحیح}$$

3

$$x^2 - 1x + m + 1 \rightarrow S = \frac{-b}{a} = \frac{1}{1} = 1 \rightarrow \alpha + \beta = 1 \rightarrow \beta = 1 - \alpha$$

$$10\alpha^2 + \beta^2 = 12 \rightarrow 10\alpha^2 + (1 - \alpha)^2 = 12 \rightarrow 10\alpha^2 + \alpha^2 - 2\alpha + 1 = 12$$

$$\rightarrow 11\alpha^2 - 2\alpha - 11 = 0$$

$$\rightarrow P = \frac{C}{a} = \frac{m+1}{1} = 1 \times 11 = 11$$

$$\rightarrow m+1 = 11 \rightarrow \boxed{m = 10}$$

$$\rightarrow \varepsilon\alpha^2 - 1\alpha + 1 = 0$$

$$\alpha^2 - 2\alpha + 1 = 0$$

$$(\alpha-1)^2 = 0 \rightarrow \alpha = 1, \beta = 0$$

4

$$y = ax^2 + bx + c \rightarrow a = 1, b = 2, c = 1$$

$$S(1, 1) = \frac{-b}{2a} = 1 \rightarrow \varepsilon a = -b \rightarrow b = \varepsilon$$

$$\rightarrow 1 = \varepsilon a - 1a + 1 \rightarrow a = -1$$

$$y = -x^2 + \varepsilon x + 1 > 0 \xrightarrow{a+c=b} -1, -\frac{1}{\varepsilon} = 2-1, 1 \rightarrow \frac{-1 \pm 2}{-1 \pm 1}$$

$$\rightarrow \boxed{(-1, 2)}$$

5

$$\alpha n^r - \nu n + 9\beta = 0 \rightarrow \alpha\beta = \frac{9\beta}{\alpha} \rightarrow \alpha^r\beta = 9\beta \rightarrow \alpha^r = 9$$

$$\alpha = \pm 3$$

$$\xrightarrow{\alpha=3} S = \alpha + \beta = \frac{\nu}{\mu} \rightarrow \mu + \beta = \frac{\nu}{\mu} \rightarrow \beta = \frac{-\nu}{\mu} \quad \text{O O E}$$

$$\xrightarrow{\alpha=-3} S = \alpha + \beta = \frac{-\nu}{\mu} \rightarrow -\mu + \beta = \frac{-\nu}{\mu} \rightarrow \beta = \frac{\nu}{\mu}$$

$$\rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{-1}{\mu} + \frac{\mu}{\nu} = \frac{-\nu + 9}{4} = \frac{\nu-9}{4}$$

5

6

$$\alpha^r + m\alpha - \nu m = 0 \xrightarrow{\text{Nilep}} m\beta = \nu m - \beta^r$$

$$\alpha^r - m\beta = 1 \rightarrow \alpha^r + \beta^r - \nu m = 1 \rightarrow \alpha^r + \beta^r = \nu m + 1$$

$$S^r - \rho = \nu m + 1$$

$$\xrightarrow{m=1} \alpha^r + \nu\alpha - \Sigma = 0 \rightarrow \Delta = \Sigma + 14 > 0 \quad \text{O O E}$$

$$m^r + \Sigma m = \nu m + 1 \rightarrow m^r + \nu m - 1 = 0$$

$$(m + \Sigma)(m - \nu) = 0$$

$$\xrightarrow{m=-\Sigma} \alpha^r - \Sigma\alpha + 1 = 0 \rightarrow \Delta = 14 - 4\nu < 0 \quad \text{O O E} \rightarrow S = -m = \Sigma$$

$$y = m\alpha^r + \Sigma\alpha + \frac{m}{\nu} + \nu \rightarrow y = \frac{\Delta}{\Sigma\alpha} = \frac{\nu m^r + \nu(1m - 14)}{\Sigma m} = 1 \rightarrow \nu m^r - \Sigma m - 14 = 0$$

$$\xrightarrow{m=\Sigma} y = \Sigma\alpha^r + \Sigma\alpha + 9 = \Delta = 14 - 14\Sigma < 0 \quad \text{O O E} \rightarrow m^r - \nu m - 14 = 0$$

$$\rightarrow (m - \Sigma)(m + \nu) = 0$$

$$\xrightarrow{m=-\nu} y = -\nu\alpha^r + \Sigma\alpha + 4 = \alpha^r - \nu\alpha - \nu \frac{a+c-b}{\nu} \quad \alpha = -1, -\frac{b}{a} \Rightarrow -1, \mu$$

$$\boxed{\mu = k} \leftarrow \text{Ciklo } \mu, k \leftarrow$$

$$y = a\alpha^r + b\alpha + c \rightarrow \Sigma$$

$$\hookrightarrow \frac{-b}{\nu a} = \nu \rightarrow -b = \nu a$$

$$y = a\alpha^r - \Sigma a\alpha + \Sigma (r, y)$$

$$y = \{a - 14a + \Sigma$$

$$\rightarrow -\Sigma a = \nu \rightarrow a = \frac{-1}{\nu}$$

$$y = \frac{-1}{\nu} \alpha^r + \nu m + \Sigma \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{S}{P} = \frac{\frac{-1}{\nu} + \Sigma}{\frac{\Sigma}{\nu}} = \frac{-1 + \Sigma\nu}{\Sigma}$$

$$\alpha^r - (\Sigma a + \Sigma)\alpha + (\nu a^r + 4a + \nu) = 0 \xrightarrow{\alpha=1} \Sigma - 14a - 1 + \nu a^r + 4a + \nu = 0$$

$$\rightarrow \nu a^r - 14a - 1 = 0 \xrightarrow{a+b+c=0} a = 1, -\frac{1}{\nu}$$

$$\xrightarrow{\alpha=1} \alpha^r - 14\alpha + 14 = 0 \rightarrow (\alpha - 9)(\alpha - 1) = 0 \rightarrow \alpha = 9$$

$$\xrightarrow{\alpha=-\frac{1}{\nu}} \alpha^r - \frac{14}{\nu}\alpha + \frac{\Sigma}{\nu} = 0 \rightarrow \Delta = \frac{4\Sigma}{\nu} - \frac{14}{\nu} = \frac{14}{\nu} \rightarrow \alpha = \frac{\frac{14}{\nu} \pm \frac{\Sigma}{\nu}}{\frac{14}{\nu}}$$

$$\rightarrow \alpha = \frac{14 \pm \Sigma}{14}$$

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