

$$x_5 = \frac{-b}{2a} = 2 \rightarrow \frac{-1}{2a-2} = 2 \Rightarrow a = \frac{3}{4} \Rightarrow y = -\frac{x^2}{4} + x + 2 = -x^2 + 4x + 12$$

$$-x^2 + 4x + 12 = 0 \rightarrow x^2 - 4x - 12 = 0 \Rightarrow x = \boxed{6} \checkmark$$

$$\Delta > 0 \Rightarrow 20 - 4m^2 > 0 \Rightarrow m^2 < \frac{5}{1} \Rightarrow -\frac{5}{2} < m < \frac{5}{2} \quad (1)$$

$$a < 0 \Rightarrow m < 0 \quad (11)$$

$$(1) \cap (11) \rightarrow m \in \left(-\frac{5}{2}, 0\right) \checkmark$$

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

$$x \left(\frac{3-\sqrt{5}}{2} + \frac{3+\sqrt{5}}{2} \right) x + \left(\frac{3+\sqrt{5}}{2} \times \frac{3-\sqrt{5}}{2} \right) = x^2 - 3x + \frac{4}{9}$$

سوال گفته باضرایب صحیح!

$$9x^2 - 18x + 4 = 0$$

$$3\alpha^2 + \beta^2 = 2\alpha^2 + 2\beta^2 + \alpha^2 - \beta^2 = 2(\alpha^2 + \beta^2) + (\alpha - \beta)(\alpha + \beta)$$

$$= 2(S^2 - 2P) - \left(\frac{\sqrt{\Delta}}{|a|}\right)(S) = 2(14 - (m+1)) - \frac{\sqrt{-4m+48}}{2} \times 4 = 12$$

$$\Rightarrow 22 - 2m - 4 - 2\sqrt{-4m+48} = 12 \Rightarrow \sqrt{-4m+48} = 1 - m$$

$$\Rightarrow m^2 - 4m + 14 = 0 \Rightarrow \boxed{m=2} \checkmark$$

$$2 = 4K + 9 \Rightarrow K = -1 \Rightarrow y = -(x-1)^2 + 9 = -x^2 + 2x + 8$$

$$\Rightarrow -x^2 + 2x + 8 > 0$$

$$\frac{-1}{-1+1-} \quad x \in (-1, 8) \checkmark$$

$$\alpha\beta^2 - \sqrt{\beta} + 9\beta = 0 \Rightarrow \alpha\beta^2 + 2\beta = 0 \rightarrow \beta(\alpha\beta + 2) = 0$$

$$\alpha^2 - \sqrt{\alpha} + 9\beta = 0 \Rightarrow \alpha = -\frac{2}{\beta} \Rightarrow \alpha = -\frac{5}{\beta}$$

$$\beta^2 t \rightarrow 9t^2 + 14t - 1 = 0 \Rightarrow t = \frac{-14 \pm \sqrt{196 + 36}}{18} = \frac{-14 \pm 15}{18}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{S}{P} = \boxed{\frac{5}{9}} \checkmark$$

$$\alpha^2 + m\alpha - 2m = 0 \Rightarrow \alpha^2 = -m\alpha + 2m$$

$$\beta^2 + m\beta - 2m = 0 \Rightarrow -m\beta = \beta^2 - 2m$$

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

$$\Rightarrow m^2 + 2m - 1 = 0 \Rightarrow S = \frac{-b}{a} = \boxed{-2} \checkmark$$

$$y_s = \frac{-\Delta}{\epsilon a} = 1 \Rightarrow - \frac{(14 - \epsilon m (\frac{m}{2} + v))}{\epsilon m} = 1$$

(1, 1.75) - 1

$$\Rightarrow 2m^2 + 21m - 14 = 22m \rightarrow 2m^2 - \epsilon m - 14 = 0 \Rightarrow m^2 - \epsilon m - 7 = 0$$

$$y = -2m^2 + \epsilon m + 9 \rightarrow m = \begin{cases} -1 \times \\ 3 \checkmark \end{cases} \quad \text{کسبت است!} \quad m = \begin{cases} 4 \checkmark \\ -2 \checkmark \end{cases}$$

$$y = k(n-2)^2 + 4 \rightarrow \epsilon = k(-2)^2 + 4 \Rightarrow k = -\frac{1}{2}$$

(2) - 9

$$y = -\frac{(n-2)^2}{2} + 4 = -\frac{n^2}{2} + 2n + 4$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\beta + \alpha}{\alpha\beta} = \frac{S}{P} = -\frac{\epsilon}{1} = \boxed{-\frac{1}{2}} \checkmark$$

$$x = 2 \Rightarrow \epsilon - 14a - 1 + 3a^2 + 4a + 3 = 0$$

(1.75)

$$3a^2 - 12a - 1 = 0 \Rightarrow a = \begin{cases} 1 \rightarrow n^2 - 14n + 1 = 0 \Rightarrow n = \begin{cases} 14 \checkmark \\ 1 \end{cases} \\ -\frac{1}{3} \rightarrow n^2 - \frac{14}{3}n + \frac{1}{3} = 0 \Rightarrow n = \begin{cases} 14 \\ \frac{1}{3} \end{cases} \end{cases}$$

$$\Rightarrow n = 14 \quad \text{or} \quad n = \frac{1}{3}$$