

$$x^2 - ax + b \rightarrow (x-1)(x- ) = x^2 - 2x + 3 \quad a+b = 3+2 = 5 \quad -1$$

$$-2 = -a \quad b = 3$$

$$\Rightarrow a = 2$$

$$(x-2n)^2 = (x+1)^2 \Rightarrow -2n = 1 \Rightarrow n = \frac{-1}{2} \quad K-2 < 0 \Rightarrow K < 2, K \in \mathbb{N} \quad -2$$

$$y = (-x+m-1)(x+1)^2 \Rightarrow K = 1$$

$$-x+m-1 \xrightarrow{x=2} -x+m-1 = 0 \Rightarrow -2+m-1 = 0 \Rightarrow m = 3$$

$$\frac{m}{n} + k = \frac{3}{\frac{-1}{2}} + 1 = -1 \cdot 3 + 1 = -2$$

$$y = \frac{-1}{2} x^2 + 2x + 9 > \frac{5}{2} \xrightarrow{x^2} -x^2 + 4x + 12 > 5 \quad -3$$

$$\Rightarrow x^2 - 4x - 7 < 0 \Rightarrow (x-5)(x+1) \quad 5 - (-1) = 6$$

$$f(x) = x^3 - 3x^2 - x + 3 \quad x > 0 \quad f(x) < 0 \rightarrow \text{صح ضرایب مناسبت} \rightarrow x = 1 \quad -4$$

بلکہ از پیشہا

$$\rightarrow (x-1)(x^2 - 2x - 3) = (x-1)(x-3)(x+1) \quad \frac{-1 \quad 1 \quad 3}{-\phi + \phi - \phi +} \rightarrow f(x) < 0$$

$$\text{دست بازہ } x = (1, 3) \Leftarrow x > 0 \Rightarrow x = (-\infty, -1) \cup (1, 3)$$

$$f(r) = r^3 - 3(r)^2 - r + 3 = -3$$

$$(a-1)x^2 + (a-1)x + 1 \rightarrow a-1 < 0 \Rightarrow a < 1 \quad -5$$

$$\Delta < 0 \Rightarrow a^2 - 2a + 1 - 4(a-1) = a^2 - 6a + 5 < 0 \Rightarrow (a-1)(a-5) < 0$$

$$a < 1 \cap a = (1, 5) = \emptyset \quad \frac{1 \quad 5}{+\phi - \phi +}$$

$$\frac{m(m^2+m)}{m-2} > 0 \rightarrow \frac{m^2(m^2+1)}{m-2} \quad \frac{*}{\phi - \phi +} \quad m = (2, +\infty) \quad -6$$

$$\frac{(x^2 - x - 2)(x-1)^2}{(x^2 + x + 1)(x-2)^2} \leq 0 \rightarrow \frac{(x-3)(x+2)(x-1)^2}{(x^2 + x + 1)(x-2)^2} \leq 0 \quad -V$$

$$\Delta < 0 \rightarrow + \frac{-2 \quad 1 \quad 2 \quad 3}{+ \quad - \quad - \quad +} \rightarrow x = [-2, 2] \cup [2, +\infty)$$

$$f(x) = \frac{3x^2 - 2x}{x^2 + 2} < 2 \rightarrow \frac{3x^2 - 2x}{x^2 + 2} - 2 < 0 \rightarrow \frac{3x^2 - 2x - 2x^2 - 4}{x^2 + 2} < 0 \quad -\Lambda$$

$$\frac{x^2 - 2x - 4}{x^2 + 2} < 0 \Rightarrow \frac{(x-4)(x+2)}{x^2 + 2} < 0 \quad \frac{-2 \quad 4}{+ \quad - \quad +} \Rightarrow x = (-2, 4) \quad \text{ر. } (-2) = 6$$

$$-1 < \frac{3x^2 - 4x}{x+1} < 0 \quad 0 < \frac{3x^2 - 4x + x + 1}{x+1} = \frac{3x^2 - 3x + 1}{x+1} > 0 \rightarrow \Delta > 0 \quad \frac{-1}{-3+} \Rightarrow x > -1 \quad -9$$

$$\frac{3x^2 - 4x}{x+1} < 0 \Rightarrow \frac{x(3x-4)}{x+1} < 0 \Rightarrow \frac{-1 \quad 0 \quad \frac{4}{3}}{-3+ \quad + \quad - \quad +} \Rightarrow x = (-\infty, -1) \cup (0, \frac{4}{3})$$

$$x > -1 \cap x = (-\infty, -1) \cup (0, \frac{4}{3}) = (0, \frac{4}{3})$$

$$\frac{x^2 - 1}{x} \leq 2 \Rightarrow \frac{x^2 - 2x - 1}{x} \leq 0 \Rightarrow \frac{(x-3)(x+1)}{x} \leq 0 \quad \frac{-2 \quad 0 \quad 3}{- \quad + \quad - \quad +} \quad -10$$

$$\Rightarrow x = (-\infty, -2] \cup (0, 3]$$