

$$\frac{2x^2 + 2x^2 - 8x + 5}{x-1} = 2x^2 + 4x - 3 = 2\left(x - \frac{1}{2}\right)(x+3) \quad (الف)$$

$$D_f = \mathbb{R} - \left\{1, \frac{1}{2}, -3\right\}$$

$$\frac{2x^2 + 9x^2 + 10x + 5}{x+1} = 2x^2 + 5x + 5 = 2\left(x + \frac{1}{2}\right)(x+5) \quad (ب)$$

$$D_f = \mathbb{R} - \left\{-1, -\frac{1}{2}, -5\right\}$$

$$\frac{x^2 - 2x^2 + 2x - 1}{x-1} = x^2 - x + 1 \rightarrow \text{ریشه ندارد، همواره مثبت} \quad D_f = \mathbb{R} - \{1\} \quad (2 الف)$$

$$\frac{x^2 - 2x^2 + 2x - 1}{x-1} = x^2 - x + 1 \rightarrow \text{ریشه ندارد، همواره مثبت} \quad \Rightarrow D_f = (-\infty, -3] \cup (1, \infty) \quad (ب)$$

$$\frac{-3}{+0} = -\frac{1}{0} +$$

$$x \geq 1 \Rightarrow x^2 - 0(x-1) - 2x + 0 = 0 = x^2 - 2x + 1 = 0 \quad (3)$$

$$x=2, 0 \quad \Leftrightarrow (x-2)(x-0)$$

$$x < 1 \Rightarrow x^2 - 0(1-x) - 2x + 0 = 0 = x^2 + 2x \Rightarrow x=0, -2$$

$$D_f = \mathbb{R} - \{2, 0, 0, -2\}$$

$$\sqrt{[x]-2} \Rightarrow [x]-2 \geq 0 \Rightarrow x = [-\infty, 2] \cup (1, +\infty] \quad (4 الف)$$

$$[x]^2 - 2[x] - 3 = 0 = ([x]-3)([x]+1) = 0 \Rightarrow x = [3, 4) \cup [-1, 0) \quad (ب)$$

$$D_f = \mathbb{R} - \{[3, 4), [-1, 0)\}$$

$$\left[x - \frac{1}{2}\right] + \left[x + \frac{1}{2}\right] = 2[x] \quad (5 الف) \text{ چون حاصلی دو عبارت دینیایک است}$$

$$D_f = [0, +\infty)$$

$$\sqrt{\left[x - \frac{1}{2}\right] + \left[\frac{1}{2} - x\right]} \quad (ب) \text{ فقط یک سوم د آن کاری کند چون در غیر این صورت زیر رادیکال منفی می شود}$$

$$\Rightarrow D_f = \left\{\frac{1}{2}\right\}$$

$$\tan n+1 \neq 0 \Rightarrow \tan n \neq -1 \Rightarrow D_f = \mathbb{R} - \left\{ \frac{r\pi}{\varepsilon}, \frac{v\pi}{\varepsilon} \right\} \quad (\text{الف})$$

$$1 - \varepsilon \sin^2 n \geq 0 \Rightarrow \varepsilon \sin^2 n \leq 1 \Rightarrow D_f = \mathbb{R} - \left[\frac{\omega\pi}{\varepsilon}, \frac{\pi}{\varepsilon} \right] \quad (\text{ب})$$

$$r \sin n - 1 \geq 1 \Rightarrow D_f = \mathbb{R} - \left[\frac{\omega\pi}{\varepsilon}, \frac{\pi}{\varepsilon} \right] \quad (\text{الف})$$

$$1 - r \cos n \geq 0 \Rightarrow r \cos n \leq 1 \Rightarrow D_f = \mathbb{R} - \left[\frac{\pi}{r}, \frac{\pi}{r} \right] \cup \left[\frac{3\pi}{r}, \frac{3\pi}{r} \right] \quad (\text{ب})$$

$$-1 \leq n^r + r n + 1 \leq 1$$

$$n^r + r n + 1 \geq 0 \Rightarrow (n+1)(n+r) \geq 0 \Rightarrow \frac{-r}{+} \quad \frac{-1}{-}$$

$$n^r + r n \leq 0 \Rightarrow n(n+r) \geq 0 \Rightarrow \frac{-r}{+} \quad \frac{0}{-}$$

$$D_f = [-r, -r] \cup [-1, 0]$$

$$\omega = r n \geq 0 \Rightarrow r n \leq \omega = n \leq \frac{\omega}{r} \quad 1 \geq \cos n \geq -1 \quad (\text{ب})$$

$$\sqrt{\omega - r n} \leq 1 \Rightarrow \omega - r n \leq 1 \Rightarrow r n \geq \varepsilon \Rightarrow n \geq r$$

$$D_f = \left[r, \frac{\omega}{r} \right]$$

$$\log_r^n \Rightarrow n > 0 \quad (\log_r^{(1-\log_r^n)}) \Rightarrow 1 - \log_r^n > 0 \Rightarrow n = (0, r) \quad (\text{الف})$$

$$1 - \log_{\frac{1}{r}}^n > 0 \Rightarrow n > 0 \Rightarrow n = \left(\frac{1}{r}, 1 \right) \quad (\text{ب})$$

$$\varepsilon n - n^r \geq r \Rightarrow -n^r + \varepsilon n - r \geq 0$$

$$\Delta = 1r - 1r = \varepsilon \Rightarrow n = \frac{-\varepsilon \pm \sqrt{\varepsilon}}{-r} = \frac{1}{r} \quad \frac{1}{-} \quad \frac{r}{+}$$

$$D_f = [1, r]$$

$$r n + a = r w n + \varepsilon w \Rightarrow r n - r w n = -a + \varepsilon w \Rightarrow n = \frac{r w - a}{r - r w} \quad (\text{ب})$$

$$\Rightarrow D_f = \left\{ n \mid n = \frac{\varepsilon k - a}{r k - r} \right\}$$