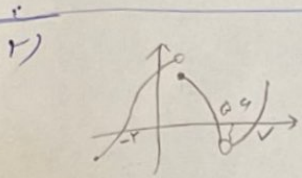


1) $x = \begin{cases} y-1 & y \geq 0 \rightarrow x \geq -1 \\ -y^r & y > 1 \rightarrow x > -1 \end{cases} \rightarrow x = r \rightarrow y-1 = -y^r$
 $\downarrow$
 $\omega \neq -r$



$$\frac{\alpha f(m-r) - r_2 \omega \vee}{f(m)} \geq \rightarrow \frac{-\varepsilon \quad -r \quad 0 \quad r \quad \omega \quad \vee}{+ \quad \oplus \quad - \quad \oplus \quad - \quad \oplus \quad - \quad \oplus}$$

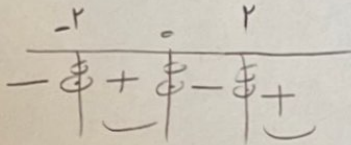
$$D_f = (-\infty, -r) \cup [-r, 0] \cup (r, \infty) \cup [r, +\infty)$$

$$\mu) \quad \frac{r_n^2 - r_n + r}{\sqrt{n(r^2 - r)}} \quad \hookrightarrow \pm r$$

2) $D_f = \mathbb{R} - \{0, \pm 1\}$

$$\Rightarrow \frac{k_n^2 - k_{n+1}^2}{n(n-2)} \geq 0$$

$$D_f = (-r, 0) \cup (r, +\infty)$$



f) ii) $n = t \rightarrow t^r - r t - 1 \rightarrow (t^r)(t+r) = 0$
 $\hookrightarrow t = -r \times$
 $t = f \longrightarrow n = \pm r$

$D_f = (-r, r) \cup (r, +\infty)$

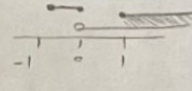
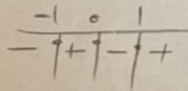
$$\begin{array}{r} -r \quad r^* \\ \hline -\$ + \$ + \end{array}$$

c) $r = r[n]$

$$[-n] = 2 \rightarrow x = [-2, -3) \rightarrow D_f = \mathbb{R} - [-2, -3)$$

(الف) ۵

$$n(n^r - 1) \geq 1/n + n > 0$$

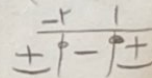


$$D_f = [1, +\infty)$$

$$|x-r| - x^r \geq 0 \rightarrow -x^r + x - r \geq 0 \rightarrow x^r - x + r \leq 0 \rightarrow \Delta(\cdot)$$

$$\hookrightarrow n \neq \pm 1$$

$$-n^r - n + r \leq 0 \rightarrow n^r + n - r \geq 0 \rightarrow (n+r)(n-1) \geq 0$$



$$D_f = (-\infty, -1] \cup (1, +\infty)$$

4) الف) $(n-1)(n-2) \geq 0$
 $\downarrow \quad \downarrow$
 $\in [1, 2]$ $\star \mu \quad \mu$
 $\frac{-1 \quad 0 \quad +}{- \quad + \quad +} \rightarrow D_f = [2, +\infty)$

$\Rightarrow |n-1|(n-2) \geq 0$
 $\downarrow \quad \downarrow$
 $\in [1, 2]$ $\star \mu \quad \mu$
 $\frac{-1 \quad -1 \quad 0 \quad +}{- \quad - \quad - \quad +} \rightarrow D_f = [2, +\infty) \cup \{1\}$

5) $||n-2|-1| = k$
 $|n-2|-1 = k \rightarrow |n-2| = k+1 \begin{cases} n-2 = k+1 \rightarrow k = n-3 \\ -n+2 = k+1 \rightarrow k = -n+1 \end{cases}$
 $|n-2|-1 = -k \rightarrow k-1 = -|n-2| \begin{cases} -n+2 = k-1 \rightarrow k = -n+3 \\ n-2 = k-1 \rightarrow k = n-1 \end{cases}$

6) $n^2 + 3n + 2 = (n+2)(n+1) \rightarrow n = -1, -2$
 $n \neq \pm 1$

$n = 3 \quad n^2 - 9n + 9 = 0$

$(n-3)^2 = 0 \rightarrow n = 3 \rightarrow$ عدد واحد

7) $n+1 > 0 \rightarrow n > -1$
 $n > 0$
 $n \neq 1 \rightarrow D_f = (0, +\infty) - \{1\}$

8) $\sqrt{n^2-1} \leq 3 \rightarrow n^2 \leq 10 \rightarrow n^2 \leq \frac{10}{\mu} \rightarrow \frac{-\sqrt{10}}{\sqrt{\mu}} \leq n \leq \frac{\sqrt{10}}{\sqrt{\mu}}$
 $\sqrt{n^2-1} = -\infty \rightarrow n^2 = -\infty \times$

$D_f = \left[\frac{-\sqrt{10}}{\sqrt{\mu}}, \frac{\sqrt{10}}{\sqrt{\mu}} \right]$