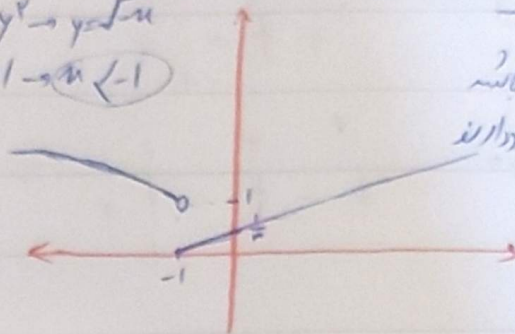


$$n = \begin{cases} ny-1 & y \geq 0 \\ -y^2 & y < 0 \end{cases} \rightarrow \begin{cases} ny-1 \geq y \sqrt{n} \\ \sqrt{n} > 1 \rightarrow n < -1 \end{cases}$$

$$ny-1 = n \rightarrow y = \frac{n+1}{n}$$

$$\frac{n+1}{n} \geq 0 \rightarrow n \geq -1$$



۱- تابع
طبق نمودار تابع می باشد
چون خطوط قائم یکدیگر را قطع می کنند

$$\begin{array}{ccccccc} -\infty & -2 & 0 & 2 & \infty & & \\ \hline - & + & - & + & - & - & + \end{array}$$

$$f(n) \leq 0 \rightarrow n = -2, 0, 2$$

$$f(n-2) \leq 0 \rightarrow n = -2, 0, 2$$

$$D_f = (-\infty, -2] \cup [0, 2] \cup [2, +\infty)$$

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

$$D_f = \mathbb{R} - \{0, 2, -2\} \quad (\text{الف ۳})$$

$$\frac{n^2 - (n+2)^2}{n(n+2)(n+2)} \geq 0 \rightarrow \frac{-2}{-} + \frac{0}{+} - \frac{2}{+}$$

$$(-2, 0) \cup (2, +\infty) \quad (\text{ب ۳})$$

$$\frac{n-2}{(n-2)(n+2)(n+2)} \geq 0 \rightarrow \frac{-2}{-} + \frac{2}{+} +$$

$$D_f = (-2, +\infty) - \{2\} \quad (\text{الف ۴})$$

$$y = \frac{n^2+1}{n-2[n]}$$

$$\Rightarrow \begin{cases} n \leq 2[-n] \rightarrow n \leq -n \rightarrow n \leq 0 \\ -3 \leq n \leq -2 \end{cases} \Rightarrow D_f = \mathbb{R} - (-3, -2] \quad (\text{ب ۴})$$

$$n+|n| \geq 0 \rightarrow \mathbb{R}^+ \quad n(n+1)(n-1) \geq 0 \rightarrow \frac{-1}{-} + \frac{0}{+} - \frac{1}{+}$$

$$(\text{الف ۵})$$

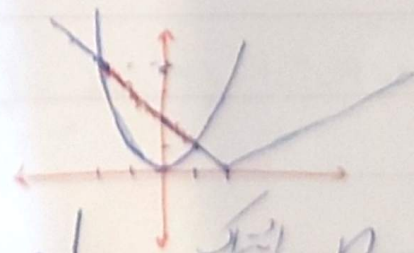
$$\mathbb{I} \cap \mathbb{II} \rightarrow D_f = [1, +\infty)$$

$$f(n) = \frac{\sqrt{|n+1|} - n^2}{|n|-1}$$

$$|n| \neq 1 \rightarrow n \neq \pm 1$$

$$|n+1| \geq n^2$$

$$SCBO \rightarrow [-2, 1]$$

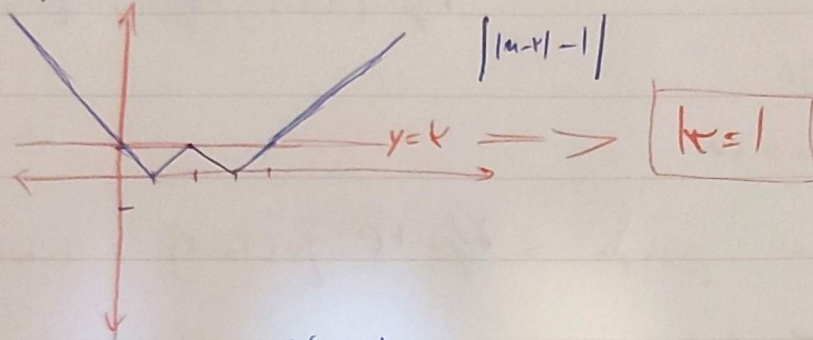


$$D_f = [-2, 1] - \{-1\} \quad (\text{ب ۵})$$

$$(n-r)[n-r] \geq 0 \quad \begin{array}{c} r^* \\ + \quad 0 \quad + \\ \quad \quad \quad + \end{array} \Rightarrow D_f = \mathbb{R} \quad \text{9-الف}$$

$$|n-1|[n-r] \geq 0 \quad \begin{array}{c} r^* \\ - \quad 0 \quad + \\ \quad \quad \quad + \end{array} \Rightarrow D_f = [r_0 + \infty) \cup \{1\} \quad \text{1-}$$

$$y = \frac{1}{||n-r|-1|-k} \rightarrow ||n-r|-1| = k \quad \text{بحسب } k=1 \quad \text{1-}$$



$$f(n) = \frac{\frac{(n+1)(n+r)}{(n+1)(n+r)}}{\frac{n+1}{n-1}} \quad \begin{array}{l} \frac{n+1}{n-1} \neq 0 \rightarrow n \neq -1 \\ (n+1)(n+r) \neq 0 \rightarrow n \neq -1, -r \\ n-1 \neq 0 \rightarrow n \neq 1 \end{array} \quad \text{1-}$$

$$n=r \rightarrow n^2 - (n+r) \leq 0 \rightarrow (n-r)^2 \leq 0 \quad n=r \text{ حتميا } \underline{\underline{2-}}$$

$$y = \log \log_n^{\frac{1}{n+1}} \quad \begin{array}{l} n+1 > 0 \\ (n < -1) \end{array} \quad \begin{array}{l} n+1 \neq 1 \\ (n \neq 0) \end{array} \quad \begin{array}{l} n > 0 \\ (n > 0) \end{array} \quad \text{9-}$$

$$\log_n^{\frac{1}{n}} > 0 \rightarrow \text{نكر مكافئ} \Rightarrow D_f = (0, 1) \quad \text{1-}$$

$$-\frac{r}{n} \leq n^2 - 1 \leq r \rightarrow \frac{-r}{n} \leq n^2 \leq \frac{r}{n} \rightarrow -\frac{\sqrt{r}}{n} \leq n \leq \frac{\sqrt{r}}{n} \quad \text{1-}$$

$$D_{f(n^2-1)} = \left[-\frac{\sqrt{r}}{n}, \frac{\sqrt{r}}{n} \right]$$

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