

11. $y = \sqrt{\frac{n^2 - 4n}{n^3 - n}} \Rightarrow \frac{n(n-4)}{n(n-1)(n+1)} \geq 0$ $\frac{-1}{-} \frac{0}{+} \frac{1}{+} \frac{4}{+}$ $D_f = (-1, 1) \cup [4, +\infty) - \{0\}$

12. $y = \sqrt{\frac{n^2 - n^3}{n^3 - n}} \Rightarrow \frac{n^2(n-1)(n+1)}{n^2(n-1)(n+1)} = n^2 + \dots \Rightarrow D_f = \mathbb{R} - \{-1, 0, 1\}$

13. $y = \frac{n+1}{\sqrt{n+|n|}}$ $n+|n| \geq 0 \Rightarrow n \geq 0$ $D_f = (0, +\infty)$

14. $y = \frac{1}{\sqrt{n|n|}}$ $n|n| > 0$ $n \neq 0$ $D_f = (0, +\infty)$

15. $y = \sqrt{x - [x]} = x - [x] \geq 0$ $D_f = (-\infty, 1)$

16. $y = \frac{1}{\sqrt{x - [x]}}$ $x - [x] > 0$ $D_f = (-\infty, 1)$

17. $y = \sqrt{\underbrace{[n - \frac{1}{r}] + [n + \frac{r}{r}]}_{n + \frac{r}{r} - 1}} \Rightarrow \underbrace{[n + \frac{r}{r}]}_{\geq \frac{1}{r}} - 1 \geq 0 \Rightarrow n + \frac{r}{r} \geq 1$ $D_f = [\frac{1}{r}, +\infty)$

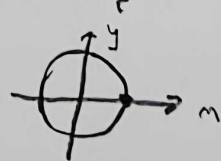
18. $y = \sqrt{[n - \frac{1}{r}] + [-n + \frac{1}{r}]}$ $\xrightarrow{\text{مربوعه}} \in \mathbb{Z}$ $\notin \mathbb{Z} - 1$ $n - \frac{1}{r} \in \mathbb{Z}$ $D_f = \{\frac{1}{r} + k \mid k \in \mathbb{Z}\}$

19. $y = \frac{r}{\sin n - 1} \Rightarrow \sin n - 1 \neq 0$ $\sin n \neq 1$ $D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{2}\}$

20. $y = \frac{r}{r \sin^2 n - 1} \Rightarrow \sin^2 n \neq 1$ $\sin^2 n \neq \frac{1}{r}$ $\sin n \neq \pm \sqrt{\frac{1}{r}}$ $D_f = \mathbb{R} - \{k\pi - \frac{\pi}{2}\} \cup \{k\pi + \frac{\pi}{2}\}$
 $D_f = \mathbb{R} - \{k\frac{\pi}{r} + \frac{\pi}{r}\}$

21. $y = \sqrt{r \sin n - 1} \Rightarrow r \sin n - 1 \geq 0$ $\sin n \geq \frac{1}{r}$ $D_f = [2k\pi + \frac{\pi}{r}, 2k\pi + \pi - \frac{\pi}{r}]$

22. $y = \sqrt{\cos n - 1} \Rightarrow \cos n \geq 1$ $D_f = \{2k\pi\}$



الف) $\cos y = |n| - 2$ $-1 \leq |n| - 2 \leq 1$ $\Rightarrow |n| - 2 \geq -1 \Rightarrow |n| \geq 1$ $|n| - 2 \leq 1 \Rightarrow |n| \leq 3$ $D_f = [-1, -2] \cup [1, 2]$

ب) $y = \arcsin(n^r + r_{m+1})$ $n^r + r_{m+1} \geq -1$ $n^r + r_{m+1} \leq 1 \Rightarrow (n+1)(n-1) \geq 0$
 $n^r + r_{m+1} \leq 1$ $n^r + r_m \leq 0$ $\frac{-r}{+} \frac{-r}{-} \frac{-1}{+} \frac{-1}{-}$
 $n(n+r) \leq 0$

الف) $y = \sqrt{2 - \log_2(n-1)}$ $(n-1) > 0$ $n > 1$ $n-1 \leq 9 \Rightarrow n \leq 10$ $D_f = (1, 10]$

$2 - \log_2(n-1) \geq 0$ $\log_2(n-1) \leq 2$

ب) $y = \log(n^r - n)$ $n^r - n > 0$ $n(n-1)(n+1) > 0$ $\frac{n}{+} \frac{-1}{-} \frac{+1}{+}$ $D_f = (-1, 0) \cup (1, +\infty)$

-9

الف) $y = \frac{r}{r^n + 1} \Rightarrow r^n + 1 \neq 0$ $r^n \neq -1$ $D_f = \mathbb{R}$

ب) $y = \frac{r}{r^n - 1} \Rightarrow r^n - 1 \neq 0$ $r^n \neq 1$ $D_f = \mathbb{R} - \{0\}$

ج) $y = \frac{r}{r^n - 2} \Rightarrow r^n - 2 \neq 0$ $r^n \neq 2$ $D_f = \mathbb{R} - \{\frac{1}{2}\}$

د) $y = \frac{r}{r^n - r} \Rightarrow r^n - r \neq 0$ $r^n \neq r$ $D_f = \mathbb{R} - \{\log_2 r\}$

الف) $y = (r_{m+1})!$ $r_{m+1} \in \mathbb{W}$ $n \in \frac{\mathbb{W}-1}{r}$ $D_f = \left\{ n \mid n = \frac{K-1}{r}, K \in \mathbb{W} \right\}$

ب) $y = \left(\frac{r_{m-1}}{r_{m-2}} \right)!$ $\Rightarrow \frac{r_{m-1}}{r_{m-2}} \in \mathbb{W} \Rightarrow r_{m-1} \in r_{m-2} \mathbb{W}$
 $r_{m-1} - r_{m-2} \in r_{m-2} \mathbb{W}$
 $n \in \frac{r_{m-2} \mathbb{W}}{r_{m-2} - r_{m-1}}$

$D_f = \left\{ n \mid n = \frac{r_{m-2} K - r_{m-1}}{r_{m-2} - r_{m-1}}, K \in \mathbb{W} \right\}$