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$$y = \frac{n+r}{rnr + rnr - 1n + r}$$

$$\begin{array}{r} rnr + rnr - 1n + r \\ - rnr + rnr \\ \hline \omega nr - 1n \\ - \omega nr + \omega n \\ \hline - rnr + r \\ + rnr - r \\ \hline \end{array} \quad \begin{array}{r} (n-1) \\ rnr + \omega n - r \\ \hline \omega nr - 1n \\ (n-1)(n+4) \\ \downarrow \quad \downarrow \\ \frac{1}{r} \quad -\frac{1}{r} = -r \end{array}$$

$$(n-1)(n-1)(n+4) \neq 0 \rightarrow D_f = R - \left\{1, \frac{1}{r}, -r\right\}$$

$$y = \frac{n+r}{rnr + 4nr + 1n + r}$$

$$\begin{array}{r} rnr + 4nr + 1n + r \\ - rnr - rnr \\ \hline \omega nr + 1n \\ - \omega nr - \omega n \\ \hline rnr + r \\ - rnr - r \\ \hline \end{array} \quad \begin{array}{r} (n-1) \\ rnr + \omega n + r \\ \hline \omega nr + 1n \\ (n+4)(n+1) \\ \downarrow \quad \downarrow \\ -\frac{1}{r} \quad -\frac{1}{r} \end{array}$$

$$(n-1)(n+4)(n+1) \neq 0 \rightarrow D_f = R - \left\{-\frac{1}{r}, -1, -\frac{1}{r}\right\}$$

$$y = \frac{n+r}{nr - rnr + rnr - 1}$$

$$\begin{array}{r} nr - rnr + rnr - 1 \\ - nr + nr \\ \hline - nr + rnr \\ + nr - n \\ \hline n-1 \\ - n+1 \\ \hline \end{array} \quad \begin{array}{r} (n-1) \\ nr - n + 1 \\ \hline \end{array} \rightarrow D_f = R - \{1\}$$

$$(n-1)(nr - n + 1) \neq 0 \rightarrow D_f = R - \{1\}$$

$$y = \frac{n+r}{nr - rnr + rnr - 1} \rightarrow (n-1)(nr - n + 1)$$

$$\begin{array}{r} nr - rnr + rnr - 1 \\ - nr + nr \\ \hline - nr + rnr \\ + nr - n \\ \hline n-1 \\ - n+1 \\ \hline \end{array} \quad \begin{array}{r} (n-1) \\ nr - n + 1 \\ \hline \end{array} \rightarrow D_f = (-\infty, r] \cup (1, +\infty)$$

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

$$y = \frac{r}{nr - \omega(n-1) - rnr + \omega}$$

$$R^- \rightarrow nr + \omega n - \omega - rnr + \omega \neq 0 \Rightarrow nr + rnr \neq 0 \Rightarrow n(nr + r) \neq 0 \Rightarrow r \neq -r$$

$$y = \frac{n+r}{|rnr+1| - |n+r|}$$

$$\begin{array}{l} (rnr+1) + (n+r) = rnr + \epsilon \rightarrow nr \neq -r \\ nr + 1 - (n) - r = n - r \neq 0 \rightarrow n \neq r \end{array}$$

$$D_f = R - \left\{-\frac{r}{r}, r\right\}$$

$$D_f = R - \left\{-r, 0, r\right\}$$

$$R^+ \rightarrow nr - \omega n + \omega - rnr + \omega \neq 0 \rightarrow nr - \omega n + 1 \neq 0 \Rightarrow (n-r)(n-\omega) \neq 0 \Rightarrow r \neq \omega$$

$$y = \sqrt{|rnr+1| - |n+r|}$$

$$\begin{array}{l} |rnr+1| - |n+r| \geq 0 \rightarrow |rnr+1| \geq |n+r| \\ (rnr+1) - (n+r) \geq 0 \rightarrow nr - rnr - r \neq 0 \\ (n-r)(n+r) \neq 0 \Rightarrow r \neq \frac{n}{r} \end{array}$$

$$D_f = (-\infty, -\frac{r}{r}] \cup [r, +\infty)$$

$$الف) y = \log \left(1 - \log \frac{a}{r} \right) \rightarrow (a) > 0 \quad I$$

$$1 - \log \frac{a}{r} > 0 \rightarrow \log \frac{a}{r} < 1 \rightarrow a < r \quad II$$

$$I \cap II \rightarrow D_f = (0, r)$$

$$ب) y = \log \left(1 - \log \frac{a}{r} \right) \rightarrow (a) > 0 \quad I$$

$$I \cap II \rightarrow D_f = \left(\frac{1}{r}, +\infty \right) \quad II$$

$$5) 1 - \log \frac{a}{r} > 0 \rightarrow \log \frac{a}{r} < 1 \rightarrow a > \frac{1}{r}$$

$$f(a) = \sqrt{\log \log \frac{a-1}{r}} \rightarrow a-1 > 0 \rightarrow a > 1 \rightarrow a > \frac{1}{r} \quad I$$

$$\log \frac{a-1}{r} > 0 \rightarrow a-1 > r \rightarrow a > r+1 \quad II$$

$$I \cap II \cap III \rightarrow D_f = (1, r)$$

$$a \leq r \quad III \quad a \leq r$$

$$\log \frac{a-1}{r} > 0$$

$$\log a \leq 1$$

$$a-1 \leq a$$

$$الف) y = \log (r \cos \alpha + 1)$$

$$r \cos \alpha + 1 > 0 \rightarrow r \cos \alpha > -1 \rightarrow \cos \alpha > -\frac{1}{r}$$

$$\Rightarrow D_f = \left(2k\pi - \frac{r\pi}{r}, 2k\pi + \frac{r\pi}{r} \right)$$

$$I \cap II \rightarrow D_f = (-\infty, -1) \rightarrow -\infty$$

$$ب) y = \sqrt{\log \frac{a-1}{a+1}}$$

$$\frac{a-1}{a+1} > 0 \rightarrow \frac{a-1}{a+1} > 0 \rightarrow (-\infty, -1) \cup (1, +\infty)$$

$$\log \frac{a-1}{a+1} > 0 \rightarrow \frac{a-1}{a+1} > 1 \rightarrow \frac{a-1}{a+1} - 1 > 0$$

$$\rightarrow \frac{-2}{a+1} > 0 \rightarrow \frac{-1}{a+1} > 0 \rightarrow (-\infty, -1) \quad II$$

$$D_f = [-\infty, \mu]$$

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$$f(a) = \sqrt{(a+r)a^r + aa + b} \rightarrow a+r=0 \rightarrow a=-r$$

$$f(a) = \sqrt{-ra + b} \rightarrow -ra + b > 0 \rightarrow ra - b \leq 0 \rightarrow a - b = 0 \rightarrow b = r$$

$$f(a) = \sqrt{a^r + ra + r - ar}$$

$$D_f = R \rightarrow \Delta \leq 0 \rightarrow (-1 + \sqrt{1 - 4}) \leq 0 \rightarrow m^r - 2 \leq -1 \rightarrow m^r \leq 1$$

$$-1 \leq m \leq 1$$

$$1 - (-1) = 2$$

$$f(a) = \frac{\sqrt{t - a^r}}{[a] + [-a] + 1}$$

$$t - a^r > 0 \rightarrow a^r \leq t \rightarrow -\sqrt{t} \leq a \leq \sqrt{t}$$

$$[n] + [-n] + 1 \neq 0$$

$$[n] + [-n] \neq -1 \rightarrow \text{منه تراشه ها}$$

$$D_f = \{-r, -1, 0, 1, r\} \rightarrow t \leq 0$$