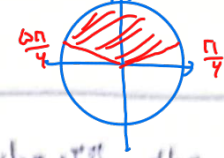
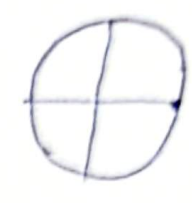


$y = \sqrt{r \sin u - 1} \rightarrow r \sin u - 1 \geq 0 \rightarrow r \sin u \geq 1$
 $\rightarrow \sin u \geq \frac{1}{r}$ ب) $\frac{1}{r}$
 $[r \sin u + \frac{\pi}{4}, r \sin u + \frac{3\pi}{4}]$
 $y = \sqrt{\cos u - 1} \rightarrow \cos u - 1 \geq 0 \rightarrow \cos u \geq 1$
 $\Rightarrow D_f = [r \sin u]$





$y = \cos y_2 (m-1)^{-1}$
 $-1 \leq m-1 \leq 1 \xrightarrow{+1} 0 \leq m \leq 2$
 $\rightarrow D_f = [r \sin u] \cup [-r \sin u]$

$y = \arcsin(u^r + r u + 1)$
 $\rightarrow \begin{cases} u^r + r u + 1 \geq -1 \rightarrow u^r + r u + 2 \geq 0 \rightarrow (u+1)(u+r+1) \geq 0 \text{ (I)} \\ u^r + r u + 1 \leq 1 \rightarrow u^r + r u \geq 0 \rightarrow u(u+r) \geq 0 \text{ (II)} \end{cases}$
 $\text{II) } \frac{-r-1}{+1-1+} \text{ (II) } \frac{-r-0}{+1-1+} \rightarrow D_f = [1, 0] \cup [-r, -r]$

$y = \sqrt{r - \log_p(u-r)} \rightarrow u-r > 0 \rightarrow u > r$
 $\rightarrow r - \log_p(u-r) \geq 0 \rightarrow \log_p(u-r) \leq r \rightarrow u-r \leq p^r$
 $y = \log(u^r - u) \rightarrow u^r - u > 0 \rightarrow u(u^{r-1} - 1) > 0 \Rightarrow \frac{-1}{-1+1-1+} \rightarrow D_f = [1, \infty) \cup [-1, +\infty)$

$y = \frac{r}{\varepsilon^u + 1} \rightarrow \varepsilon^u \neq -1 \rightarrow D_f = \mathbb{R}$

$y = \frac{r}{\varepsilon^u - 1} \rightarrow \varepsilon^u \neq 1 \rightarrow D_f = \mathbb{R} - \{0\}$

$y = \frac{r}{\varepsilon^u - r} \rightarrow \varepsilon^u \neq r \rightarrow x \neq \log_r r \rightarrow D_f = \mathbb{R} - \{\log_r r\}$

$y = \frac{r}{\varepsilon^u - r} \rightarrow \varepsilon^u \neq r \rightarrow u \neq \log_r r \Rightarrow D_f = \mathbb{R} - \{\log_r r\}$

$y = (k n + 1)!$ $\varepsilon^{n+1} \in \mathbb{N} \rightarrow n \in \frac{\mathbb{N}-1}{f}$
 $\rightarrow D_f = [n | n = \frac{k-1}{f}, k \in \mathbb{N}]$

$y = (\frac{r n - r}{r n - \omega})!$ $\frac{r n - r}{r n - \omega} \in \mathbb{N} \rightarrow r n - r \in r n \mathbb{N} - \omega \mathbb{N} \rightarrow r n - r n \mathbb{N} \in r - \omega \mathbb{N}$
 $\rightarrow n = \frac{r - \omega \mathbb{N}}{r n - r n \mathbb{N}} \rightarrow D_f = \{n | n = \frac{\delta k + r}{\omega k - \omega}, k \in \mathbb{N}\}$