

~~$\sqrt{y \sin x - 1}$~~ $\rightarrow y \sin x - 1 \geq 0$
 $y \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{y}$
 $D_f = \{y \mid y \geq 1\} \cup \{y \mid y \leq -1\} \cup \{y \mid y \geq \frac{1}{\sin x}\} \cup \{y \mid y \leq -\frac{1}{\sin x}\}$
 $\sqrt{\cos x - 1}$ $\cos x \geq 1$ $\bigcirc$ $D_f = \mathbb{R} - \{y \mid y < 1\}$

$\cos y = |x| - 1$ $-1 \leq |x| - 1 \leq 1$ $-1 \leq |x| \leq 2$ $\rightarrow x \in [-2, 2]$

$y = \arcsin(x^2 + 3x + 1)$ $-1 \leq x^2 + 3x + 1 \leq 1$ $\rightarrow -2 \leq x \leq 0$ $\rightarrow D_f = [-2, 0]$
 $D_f = \{-2, -1, 0\}$

$y = \sqrt{y - \log_p(x-y)}$ $x - y > 0 \rightarrow x > y$
 $y - \log_p(x-y) \geq 0$
 $y \geq \log_p(x-y) \rightarrow y \geq x - y \rightarrow (y, x]$
 $y \geq x - y$
 $y \geq x$

$y = \log(x^2 - x) \rightarrow x^2 - x > 0$
 $x(x-1) > 0 \rightarrow D_f = (-1, 0) \cup (1, +\infty)$

$y = \frac{y}{x^2 + 1}$ $f^x + 1 \neq 0$
 $f^x \neq -1 \rightarrow D_f = \mathbb{R}$
 $y = \frac{y}{f^x - 1} \rightarrow f^x - 1 \neq 0 \rightarrow f^x \neq 1 \rightarrow x \neq 0 \rightarrow \mathbb{R} - \{0\}$
 $y = \frac{y}{f^x - y} \rightarrow f^x - y \neq 0 \rightarrow f^x \neq y \rightarrow \mathbb{R} - \{\log_f y\}$
 $y = \frac{y}{f^x - y} \rightarrow f^x - y \neq 0 \rightarrow f^x \neq y \rightarrow \mathbb{R} - \{\log_f y\}$

$y = (f(x+1))!$ $f(x+1) \in \mathbb{W} \rightarrow f(x) \in \mathbb{W} - 1 \rightarrow x \in \frac{\mathbb{W}-1}{f}$
 $\rightarrow D_f = \{x \mid x = \frac{k-1}{f}, k \in \mathbb{W}\}$

$y = \left(\frac{y^x - y}{y^x - \delta}\right)! \rightarrow \frac{y^x - y}{y^x - \delta} \in \mathbb{W} \rightarrow y^x - y \in y^x \mathbb{W} - \delta \mathbb{W}$
 $\Rightarrow y^x - y^x \in -\delta \mathbb{W} - y^x \rightarrow x(y^x - y) \in -\delta \mathbb{W} - y^x \rightarrow x \in \frac{-\delta \mathbb{W} - y^x}{y^x - y} \rightarrow x \in \frac{\delta \mathbb{W} + y^x}{y^x - y}$

$D_f = \{x \mid x = \frac{\delta k + y^x}{y^x - y}, k \in \mathbb{W}\}$