

$\tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4}$
 $\tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4}$
 $D_f: \mathbb{R} - \left\{ k\pi - \frac{\pi}{4} \right\}$

$1 - \sqrt{5} \sin^2 x \geq 0 \rightarrow 1 \geq \sqrt{5} \sin^2 x \rightarrow \frac{1}{\sqrt{5}} \geq \sin^2 x \geq -\frac{1}{\sqrt{5}}$
 $D_f: \left[k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2} \right]$

$\sqrt{5} \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{\sqrt{5}} \rightarrow D_f: \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right]$

$1 - \sqrt{5} \cos x \geq 0 \rightarrow 1 \geq \sqrt{5} \cos x \rightarrow \frac{1}{\sqrt{5}} \geq \cos x$
 $D_f: \mathbb{R} - \left(2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3} \right)$

$-1 \leq x^2 + 2x + 1 \leq 1 \rightarrow \frac{1}{2} \leq (x + \frac{1}{2})^2 \leq \frac{9}{2} \rightarrow \frac{1}{2} \leq x + \frac{1}{2} \leq \frac{3}{2}$
 $-1 \leq x \leq 0 \rightarrow -\frac{1}{2} \geq x + \frac{1}{2} \geq -\frac{3}{2} \rightarrow -2 \geq x \geq -3$
 $D_f: [-1, 0] \cup [2, 5]$

$\sqrt{5 - 2x} \leq 1 \rightarrow 5 - 2x \leq 1 \rightarrow 4 \leq 2x \rightarrow 2 \leq x$
 $\sqrt{5 - 2x} \geq 0 \rightarrow 5 \geq 2x \rightarrow \frac{5}{2} \geq x$
 $D_f: \left[2, \frac{5}{2} \right]$

$x > 0$
 $1 - \log_3^x > 0 \rightarrow 1 > \log_3^x \rightarrow 3 > x$
 $D_f: (0, 3)$

$x > 0$
 $1 - \log_{\frac{1}{3}}^x > 0 \rightarrow 1 > \log_{\frac{1}{3}}^x \rightarrow \frac{1}{3} < x$
 $D_f: \left(\frac{1}{3}, +\infty \right)$

$2^{x-x^2} - 8 > 0 \rightarrow 2^{x-x^2} \geq 8 \rightarrow x - x^2 \geq 3 \rightarrow x^2 - x + 3 \leq 0$
 $\frac{1}{1-1} \rightarrow D_f: [1, 3]$

$\frac{3x+5}{2x+2} \in W \rightarrow x \in \frac{5W-5}{2-2W} \rightarrow D_f: \left\{ x \mid x = \frac{5k-5}{2-2k}, k \in W \right\}$