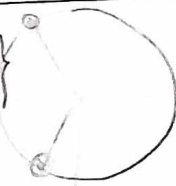


$$y = \frac{\sin x - 2}{2 \cos x + 1}$$

$$\Rightarrow 2 \cos x + 1 \neq 0 \quad D_f = \mathbb{R} - \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3} \right\}$$

$$2 \cos x \neq -1$$

$$\cos x \neq -\frac{1}{2}$$



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$$y = \frac{\sin x + 2}{\cos x - 1}$$

$$\cos x - 1 \neq 0 \quad D_f = \mathbb{R} - \{2k\pi\}$$

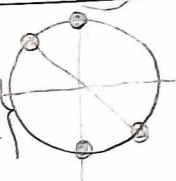
$$\cos x \neq 1$$



$$y = \frac{2 \sin x + 1}{\tan x + 1}$$

$$\tan x + 1 \neq 0 \Rightarrow \tan x \neq -1$$

$$\cos x \neq 0 \quad D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2} \right\}$$

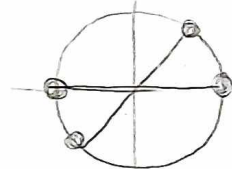


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$$y = \frac{\cos x + 1}{\cot x - 1}$$

$$\cot x - 1 \neq 0 \Rightarrow \cot x \neq 1$$

$$\sin x \neq 0 \quad D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{2} \right\}$$



$$\sin y = x^2 - 2$$

$$-1 \leq x^2 - 2 \leq 1 \quad \sqrt{1} \leq x \leq \sqrt{3} \quad 1 \leq x \leq \sqrt{3} \quad D_f = [1, \sqrt{3}] \cup [-\sqrt{3}, 1]$$

$$-1 \leq x^2 \leq 3 \quad -\sqrt{3} \leq x \leq \sqrt{3} \quad 1 \geq x \geq -\sqrt{3}$$

$$[-\sqrt{3}, \sqrt{3}]$$

$$y = \arccos(\sqrt{x} - 2)$$

$$-1 \leq \sqrt{x} - 2 \leq 1$$

$$1 \leq \sqrt{x} \leq 3$$

$$1 \leq x \leq 9$$

$$D_f = [1, 9]$$

$$\cos y = |x| - 2$$

$$-1 \leq |x| - 2 \leq 1 \quad 1 \leq |x| \leq 3 \quad 1 \leq x \leq 3$$

$$-1 \geq x \geq -3$$

$$D_f = [1, 3] \cup [-3, -1]$$

$$y = \arcsin(x^2 + 3x + 1)$$

$$x^2 + 3x + 1 \geq -1 \Rightarrow x^2 + 3x + 2 \geq 0 \quad (x+2)(x+1) \geq 0 \quad I$$

$$-1 \leq x^2 + 3x + 1 \leq 1 \quad II \quad x^2 + 3x \leq 0 \quad x(x+3) \leq 0$$

$$D_f = [0, 1] \cup [2, 3]$$

$$y = \log_{x^2-2} x$$

$$x^2 - 2 > 0 \quad x^2 > 2 \quad x > \sqrt{2} \quad D_f = (\sqrt{2}, +\infty) \cup (-\infty, -\sqrt{2})$$

$$x < -\sqrt{2}$$

$$y = \log_{x^2-2} (x-1)$$

$$x^2 - 2 > 0 \quad x > \sqrt{2} \quad D_f = (-\sqrt{2}, \sqrt{2})$$

$$x > 1$$

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$y = \log \frac{\omega - x}{x - r}$ $x - r + 1$ $x + r$ $y = \log \frac{x^r - 1}{x + r}$	6
$y = \log \frac{x^r - r x + r^2}{x - r}$ $y = \log \frac{x + r}{x - r}$	7
$y = \sqrt{r - \log_r (x - r)}$ $r - \log_r x - r \geq 0$ $y = \log(r \log_r x - 1)$	8
$y = \frac{r}{r^x + 1}$ $y = \frac{r}{r^x - 1}$ $y = \frac{r}{r^x - r}$	9
$y = (r x + 1)!$ $y = \left(\frac{r x - r}{r x - \omega} \right)!$	10

$$D_f = \left\{ x \mid x = \frac{\omega k - r}{r k - r}, k \in W \right\}$$