

نام و نام خانوادگی فرزند صالحی پاسخنامه تشریحی تکلیف شماره ۴ کلاس (هم (روز بعد)

$$y = \sqrt{x-1} \geq 0 \rightarrow x-1 \geq 0 \rightarrow x \geq 1 \rightarrow \boxed{x \geq 1} / \begin{matrix} x-1 \geq 0 \\ x \geq 1 \end{matrix} \rightarrow \boxed{D_f = [1, +\infty)}$$

$$y = \sqrt{x-1} \leq 1 \rightarrow x-1 \leq 1 \rightarrow x \leq 2 \rightarrow \boxed{x \leq 2} / \begin{matrix} x-1 \leq 1 \\ x \leq 2 \end{matrix} \rightarrow \boxed{D_f = (-\infty, 2]}$$

$$y = \sqrt{x-1} \geq 0 \rightarrow x-1 \geq 0 \rightarrow x \geq 1 \rightarrow \boxed{x \geq 1} / \begin{matrix} x-1 \geq 0 \\ x \geq 1 \end{matrix} \rightarrow \boxed{D_f = [1, +\infty)}$$

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$$y = \sqrt[3]{x-1} \geq 0 \rightarrow x-1 \geq 0 \rightarrow x \geq 1 \rightarrow \boxed{x \geq 1} / \begin{matrix} x-1 \geq 0 \\ x \geq 1 \end{matrix} \rightarrow \boxed{D_f = [1, +\infty)}$$

$$y = \sqrt[3]{x-1} \leq 1 \rightarrow x-1 \leq 1 \rightarrow x \leq 2 \rightarrow \boxed{x \leq 2} / \begin{matrix} x-1 \leq 1 \\ x \leq 2 \end{matrix} \rightarrow \boxed{D_f = (-\infty, 2]}$$

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$$y = \sqrt{x-1} \leq 1 \rightarrow x-1 \leq 1 \rightarrow x \leq 2 \rightarrow \boxed{x \leq 2} / \begin{matrix} x-1 \leq 1 \\ x \leq 2 \end{matrix} \rightarrow \boxed{D_f = (-\infty, 2]}$$

$$y = \frac{x+1}{\sqrt{x+1}} \geq 0 \rightarrow x+1 \geq 0 \rightarrow x \geq -1 \rightarrow \boxed{x \geq -1} / \begin{matrix} x+1 \geq 0 \\ x \geq -1 \end{matrix} \rightarrow \boxed{D_f = [-1, +\infty)}$$

$$y = \frac{1}{\sqrt{x+1}} \geq 0 \rightarrow x+1 \geq 0 \rightarrow x \geq -1 \rightarrow \boxed{x \geq -1} / \begin{matrix} x+1 \geq 0 \\ x \geq -1 \end{matrix} \rightarrow \boxed{D_f = [-1, +\infty)}$$

$$y = \sqrt{x-x} \rightarrow y=0 \rightarrow x-x \geq 0 \rightarrow x \geq x \rightarrow x \leq x \rightarrow \text{---} \rightarrow D_f = (-\infty, x)$$

$$y = \frac{1}{\sqrt{x-x}} \rightarrow y=0 \rightarrow x-x \geq 0 \rightarrow x \geq x \rightarrow x \leq x \rightarrow \text{---} \rightarrow D_f = (-\infty, x)$$

$$y = \frac{1}{x-x} \rightarrow y=0 \rightarrow x-x \neq 0 \rightarrow \begin{cases} x > x \\ x < x \end{cases} \rightarrow D_f = (-\infty, 0) \cup [1, +\infty)$$

$$y = \frac{1}{\sqrt{-x-x}} \rightarrow y=0 \rightarrow x-x \geq 0 \rightarrow x \geq x \rightarrow \begin{cases} x > x \\ x < x \end{cases} \rightarrow D_f = \emptyset$$

$$y = \sqrt{\left[n-\frac{1}{x}\right] + \left[n+\frac{1}{x}\right]} \rightarrow \left[n-\frac{1}{x}\right] + \left[n+\frac{1}{x}\right] \geq 0 \rightarrow \left[n+\frac{1}{x}\right] \geq 0 \rightarrow D_f = \left[\frac{1}{x}, +\infty\right)$$

$$y = \sqrt{\left[n-\frac{1}{x}\right] + \left[-n+\frac{1}{x}\right]} \rightarrow \left[n-\frac{1}{x}\right] + \left[-n+\frac{1}{x}\right] \geq 0 \rightarrow \left[n-\frac{1}{x}\right] \geq 0 \rightarrow D_f = \{x \mid x = k + \frac{1}{x}, k \in \mathbb{Z}\}$$

$$y = \frac{1}{x \sin x - 1} \rightarrow x \sin x - 1 \neq 0 \rightarrow \sin x \neq \frac{1}{x} \rightarrow \sin x \neq \pm \frac{\sqrt{x}}{x} \rightarrow \begin{cases} \frac{\sqrt{x}}{x} (\frac{\pi}{2}, \frac{3\pi}{2}) \\ -\frac{\sqrt{x}}{x} (\frac{3\pi}{2}, \frac{5\pi}{2}) \end{cases}$$

$$y = \cot x + 1 \rightarrow \tan x \neq -1 \rightarrow (1, \pi) \rightarrow \begin{cases} \sin x > 0 \\ \cos x < 0 \end{cases} \rightarrow D_f = \mathbb{R} - \left\{k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\right\}$$

$$y = \sqrt{x \sin x - 1} \rightarrow x \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{x} \rightarrow \begin{cases} \sin x \geq \frac{1}{x} \\ \sin x \leq -\frac{1}{x} \end{cases} \rightarrow D_f = \left\{x \in \left[\frac{\pi}{4} + 2k\pi, \frac{3\pi}{4} + 2k\pi\right], k \in \mathbb{Z}\right\}$$

$$y = \sqrt{1 - \cos x} \rightarrow \cos x \leq 1 \rightarrow \frac{1}{x} \leq 1 \rightarrow \begin{cases} \cos x \leq 1 \\ \sin x \geq 0 \end{cases} \rightarrow D_f = \left\{x \in \left[2k\pi + \frac{\pi}{4}, 2k\pi + \frac{3\pi}{4}\right], k \in \mathbb{Z}\right\}$$