

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

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



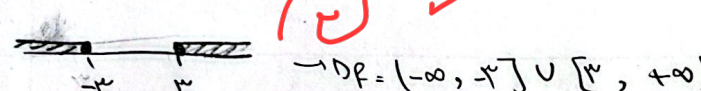
✓

$$y = \sqrt{2-x} \geq 0 \rightarrow 2-x \geq 0 \rightarrow x \leq 2 \rightarrow \boxed{x \leq 2} \rightarrow D_f = (-\infty, 2]$$



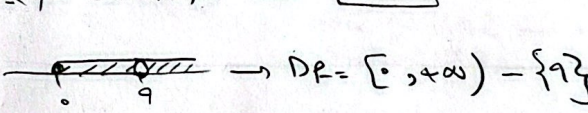
$$y = \sqrt{x^2-4} \geq 0 \rightarrow x^2-4 \geq 0 \rightarrow x^2 \geq 4 \rightarrow x \leq -2 \text{ or } x \geq 2 \rightarrow D_f = (-\infty, -2] \cup [2, +\infty)$$

$$y = \sqrt{3|x|-9} \geq 0 \rightarrow 3|x|-9 \geq 0 \rightarrow 3|x| \geq 9 \rightarrow |x| \geq 3 \rightarrow x \leq -3 \text{ or } x \geq 3 \rightarrow \boxed{x \leq -3 \text{ or } x \geq 3}$$

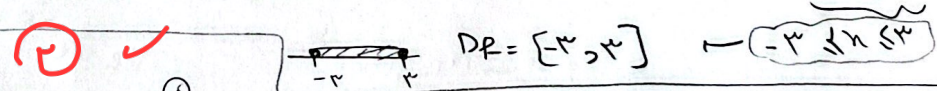


$$y = \sqrt[3]{\frac{|x+1|}{|x|-2}} \rightarrow |x| \neq 2 \rightarrow x \neq \pm 2 \rightarrow D_f = \mathbb{R} - \{-2, 2\} = (-\infty, -2) \cup (-2, 2) \cup (2, +\infty)$$

$$y = \sqrt[3]{\frac{\sqrt{x+1}}{\sqrt{x-3}}} \rightarrow \sqrt{x+1} \geq 0 \rightarrow x+1 \geq 0 \rightarrow x \geq -1 \rightarrow \boxed{x \geq -1}$$



$$y = \sqrt{2-|x|} \geq 0 \rightarrow 2-|x| \geq 0 \rightarrow |x| \leq 2 \rightarrow -2 \leq x \leq 2 \rightarrow \boxed{-2 \leq x \leq 2}$$



$$y = \sqrt{x^2-1} \geq 0 \rightarrow x^2-1 \geq 0 \rightarrow x^2 \geq 1 \rightarrow x \leq -1 \text{ or } x \geq 1 \rightarrow D_f = (-\infty, -1] \cup [1, +\infty)$$

$$y = \frac{x+1}{\sqrt{x+|x|}} \rightarrow x+|x| \geq 0 \rightarrow x \geq 0 \rightarrow D_f = \mathbb{R}^+ = [0, +\infty)$$

$$y = \frac{1}{\sqrt{x+|x|}} \rightarrow x+|x| \geq 0 \rightarrow x \geq 0 \rightarrow D_f = \mathbb{R}^+ = (0, +\infty)$$

$$y = \sqrt{1-x} \rightarrow y \geq 0 \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \rightarrow \text{Domain} = (-\infty, 1]$$

(2) ✓

$$y = \frac{1}{\sqrt{1-x}} \rightarrow y \geq 0 \rightarrow 1-x > 0 \rightarrow x < 1 \rightarrow \text{Domain} = (-\infty, 1)$$

$$y = \frac{1}{x} \rightarrow x \neq 0 \rightarrow x > 0 \rightarrow \text{Domain} = (-\infty, 0) \cup (0, +\infty)$$

(2) ✓

$$y = \frac{1}{\sqrt{-x}} \rightarrow x < 0 \rightarrow \text{Domain} = \emptyset$$

$$y = \sqrt{\left[n - \frac{1}{x}\right] + \left[n + \frac{1}{x}\right]} \rightarrow \left[n - \frac{1}{x}\right] + \left[n + \frac{1}{x}\right] \geq 0 \rightarrow 2n \geq 0 \rightarrow n \geq 0$$

$$\text{Domain} = \left[\frac{1}{2}, +\infty\right)$$

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

$$n - \frac{1}{x} \in \mathbb{Z} \rightarrow n \in \mathbb{Z} + \frac{1}{x} \rightarrow \text{Domain} = \{x \mid x = k + \frac{1}{x}, k \in \mathbb{Z}\}$$

$$y = \frac{1}{1 - \sin x} \rightarrow 1 - \sin x \neq 0 \rightarrow \sin x \neq 1 \rightarrow \sin x \neq \frac{1}{1} \rightarrow \text{Domain} = \mathbb{R} - \left\{k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\right\}$$

$$y = \cot x + 1 \rightarrow \tan x \neq -1 \rightarrow \text{Domain} = \mathbb{R} - \left\{k\pi + \frac{3\pi}{4}, k\pi - \frac{\pi}{4}\right\}$$

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

$$y = \sqrt{1 - \cos x} \rightarrow 1 - \cos x \geq 0 \rightarrow \cos x \leq 1 \rightarrow \text{Domain} = \left[2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{\pi}{2}\right], k \in \mathbb{Z}$$