

نام و نام خانوادگی ابوالحسن پاسخنامه تشریحی تکلیف شماره ۶ کلاس (۵م) (خف)

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مدرسه نمونه

$$y = \sqrt{\frac{n^2 - 4n}{n^2 - n}} \rightarrow \frac{n(n-4)}{n(n-1)} \rightarrow \frac{n-4}{n-1} \rightarrow \frac{-1}{1} + \frac{3}{n-1} \rightarrow D_f = (-\infty, 0) \cup (1, \infty)$$

$$y = \sqrt{\frac{n^2 - n^3}{n^2 - n}} \rightarrow \frac{n^2(n-1)}{n(n-1)(n+1)} \rightarrow \frac{n}{n+1} \rightarrow \frac{1}{1} - \frac{1}{n+1} \rightarrow D_f = (-\infty, -1) \cup (0, \infty)$$

$$y = \frac{n+1}{\sqrt{n+1}} \rightarrow n+1 > 0 \rightarrow D_f = (0, \infty)$$

$$y = \frac{1}{\sqrt{n+1}} \rightarrow \frac{1}{n+1} \rightarrow D_f = (0, \infty)$$

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

$$y = \frac{1}{\sqrt{2 - \ln x}} \rightarrow 2 - \ln x > 0 \rightarrow \ln x < 2 \rightarrow D_f = (-\infty, e^2)$$

$$[n - \frac{1}{2}], [n + \frac{1}{2}] \geq 0 \rightarrow [n - \frac{1}{2} + 1], [n + \frac{1}{2}] \geq 1 \rightarrow D_f = [\frac{1}{2}, \infty)$$

$$\text{a) if } n \in \mathbb{Z} \rightarrow [n] + [-n] = 0 \rightarrow n - \frac{1}{2} \in \mathbb{Z} \rightarrow n \in \mathbb{Z} \rightarrow [n] + (-n) = -1 \rightarrow D_f = \{n \mid n = k + \frac{1}{2}, k \in \mathbb{Z}\}$$

$$y = \frac{2}{\sin n - 1} \rightarrow \sin n - 1 \neq 0 \rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$$

$$y = \frac{2}{2 \sin^2 n - 1} \rightarrow \sin^2 n - 1 \neq 0 \rightarrow \sin^2 n \neq 1 \rightarrow \sin n \neq \pm 1 \rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}, k\pi\}$$

$$y = \sqrt{\sin n - 1} \quad \langle \sin n - 1 \rangle \geq 0 \quad \langle \sin n \rangle \geq \frac{1}{2}$$

$$D_f = \left[\left(\frac{\pi}{6} + 2k\pi \right) \cup \left(\frac{5\pi}{6} + 2k\pi \right) \right]$$

$$y = \cos n \Rightarrow 1 \geq 0 \quad \cos n \geq 1 \Rightarrow \cos n = 1 \quad D_f = \{2k\pi\}$$

$$\cos y = |n| - 2 \quad -1 \leq |n| - 2 \leq 1 \quad |n| - 2 \leq 1 \quad |n| \leq 3 \quad \begin{matrix} n \leq 3 \\ n \geq -3 \end{matrix}$$

$$D_f = [-3, -2] \cup [2, 3]$$

$$-1 \leq |n| - 2 \Rightarrow -1 \leq |n| \Rightarrow |n| \geq 1 \quad D_f = \{n \mid |n| \leq 3\} \cap \{n \mid |n| \geq 1\}$$

$$-1 \leq |n| - 2 \Rightarrow |n| \geq 1 \quad 0 \leq n(n+2) < 2 \quad \begin{matrix} 0 \leq n(n+2) < 2 \\ 0 \leq (n+1)(n+1) < 2 \end{matrix}$$

$$n < 0 \Rightarrow n > -2 \quad \langle -\log_2 n \rangle \geq 0$$

$$D_f = (-2, 0]$$

$$\log_2 n \leq 1 \quad n < 2 \quad \begin{matrix} n < 2 \\ n \leq 1 \end{matrix}$$

$$\Rightarrow \frac{n^2 - n}{n(n-1)} \geq 0 \quad \begin{matrix} -1 & 0 & 1 \\ | & + & | \\ - & + & - \end{matrix} \quad D_f = (-1, 0) \cup (1, +\infty)$$

$$\text{a) } e^n + 1 \neq 0 \quad e^n \neq -1 \Rightarrow D_f = \mathbb{R}$$

$$\Rightarrow e^n - 1 \neq 0 \quad e^n \neq 1 \quad n \neq 0 \quad D_f = \mathbb{R} \setminus \{0\}$$

$$\text{b) } e^n - 2 \neq 0 \quad e^n \neq 2 \quad \left(\frac{1}{e}\right)^n \neq \frac{1}{2} \Rightarrow n \neq \frac{1}{\ln 2} \quad D_f = \mathbb{R} \setminus \left\{\frac{1}{\ln 2}\right\}$$

$$\text{c) } e^n - 2 \neq 0 \quad e^n \neq 2 \quad D_f = \mathbb{R} \setminus \left\{\log_2 e\right\}$$

$$y = (e^n + 1) \quad e^n + 1 \in \mathbb{W} \quad e^n \in \mathbb{W} \quad n \in \mathbb{W}$$

$$D_f = \{n \mid n \in \mathbb{W}\}$$

$$y = \left(\frac{e^n - 2}{e^n - 1}\right) \quad \frac{e^n - 2}{e^n - 1} \in \mathbb{W} \quad \frac{e^n - 2}{e^n - 1} \in \mathbb{W} \quad n \in \mathbb{W}$$

$$n \in \mathbb{W} \quad D_f = \{n \mid n \in \mathbb{W}\}$$

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