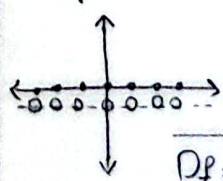
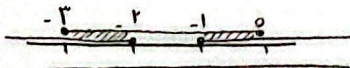


نام و نام خانوادگی ... آریسا علیاری ... پاسخنانه تشریحی تکلیف شماره ۳ ... کلاس یازدهم دختر ...

|                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| $y = \frac{x+3}{2x^3+3x^2-11x+3}$<br>$2x^3+3x^2-11x+3 \neq 0$<br>$(x-1)(2x^2+5x-3) \neq 0 \rightarrow \frac{(x+4)(x-1)}{2}$<br>$(x-1)(x^2+5x-4) \neq 0 \rightarrow \frac{(x+4)(x-1)}{2}$<br>$D_f = \mathbb{R} - \left\{1, -\frac{3}{2}, \frac{1}{2}\right\}$<br>الف)                                                    | $y = \frac{x+3}{2x^3+9x^2+11x+3}$<br>$2x^3+9x^2+11x+3 \neq 0$<br>$(x+1)(2x^2+7x+3) \neq 0$<br>$(x+1)(x^2+7x+4) \neq 0 \rightarrow \frac{(x+1)(x+4)}{2}$<br>$D_f = \mathbb{R} - \left\{-1, -\frac{1}{2}, -\frac{3}{2}\right\}$<br>ب)                                                               | ۱ |
| $y = \frac{x+3}{x^3-2x^2+2x-1}$<br>$x^3-2x^2+2x-1 \neq 0$<br>$(x-1)(x^2-x+1) \neq 0$<br>$D_f = \mathbb{R} - \{1\}$<br>الف)                                                                                                                                                                                              | $y = \sqrt{\frac{x+3}{x^3-2x^2+2x-1}} \cdot \frac{x+3}{x^3-2x^2+2x-1} > 0$<br>$\frac{x+3}{(x-1)(x^2-x+1)} \cdot \frac{-3}{x^2-x+1}$<br>$D_f = (-\infty -3] \cup (1 +\infty)$<br>ب)                                                                                                                | ۲ |
| $y = \frac{2}{x^2-5 x-1 -2x+5}$<br>$x^2-5 x-1 -2x+5 \neq 0$<br>$x^2-5x+5-2x+5 \neq 0 \rightarrow x^2-7x+10 \neq 0 \rightarrow (x-2)(x-5) \neq 0 \rightarrow x \neq 2, 5$<br>$x^2+5x-5-2x+5 \neq 0 \rightarrow x^2+3x \neq 0 \rightarrow x(x+3) \neq 0 \rightarrow x \neq 0, -3$<br>$D_f = \mathbb{R} - \{2, 5, 0, -3\}$ |                                                                                                                                                                                                                                                                                                   | ۳ |
| $y = \sqrt{[x]-2} \rightarrow [x] \geq 2$<br>$D_f = (-\infty -2]$<br>الف)                                                                                                                                                                                                                                               | $y = \frac{5x^2+9}{[x]^2-2[x]-3} ([x]-3)([x]+1)$<br>$[x]+1 \neq 0 \rightarrow [x] \neq -1 \rightarrow x \notin [-1, 0)$<br>$[x]-3 \neq 0 \rightarrow [x] \neq 3 \rightarrow x \notin [3, 4)$<br>$D_f = (-\infty -1) \cup [0, 3) \cup [4, +\infty)$<br>ب)                                          | ۴ |
| $y = \sqrt{[x-\frac{1}{4}] + [x+\frac{1}{4}]}$<br>$[x-\frac{1}{4}] + [x+\frac{1}{4}] + 1 > 0$<br>$2[x-\frac{1}{4}] > -1 \rightarrow [x-\frac{1}{4}] > -\frac{1}{2}$<br>$x-\frac{1}{4} > [-\frac{1}{4}] \rightarrow x-\frac{1}{4} > 0 \rightarrow x > \frac{1}{4}$<br>الف) $D_f = [\frac{1}{4}, +\infty)$                | $y = \sqrt{[x-\frac{1}{4}] + [\frac{1}{4}-x]} \rightarrow [x] + [-x]$<br><br>$x-\frac{1}{4} \in \mathbb{Z}$<br>$x \in \mathbb{Z} + \frac{1}{4}$<br>$D_f = \{x   x = k + \frac{1}{4}, k \in \mathbb{Z}\}$<br>ب) | ۵ |

|                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                  |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| $y = \frac{\cot x + 1}{\tan x + 1} \quad \cos, \sin \neq 0$<br>$\tan \neq -1 \rightarrow 180^\circ, 360^\circ$<br>$D_f = IR - \left\{ k\pi, k\pi - \frac{\pi}{4} \right\}$                                                                                                                                                                                                                | $y = \sqrt{1 - \sin^2 x} \quad \sin^2 x \leq 1$<br>$\sin^2 x \leq \frac{1}{4}$<br>$-\frac{1}{2} \leq \sin x \leq \frac{1}{2}$<br>$D_f = \left[ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right]$                                                                                                               | 6  |
| ا) $y = \sqrt{2 \sin x - 1} \quad 2 \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{2}$<br>$D_f = \left[ k\pi + \frac{\pi}{6}, k\pi + \frac{5\pi}{6} \right]$                                                                                                                                                                                                                              | ب) $y = \sqrt{1 - 2 \cos x} \quad 2 \cos x \leq 1$<br>$\cos x \leq \frac{1}{2}$<br>$D_f = IR - \left[ k\pi - \frac{\pi}{3}, k\pi + \frac{\pi}{3} \right]$                                                                                                                                                        | 7  |
| ا) $y = \arcsin(x^2 + 2x + 1)$<br>$x^2 + 2x + 1 \leq 1 \rightarrow x^2 + 2x \leq 0$<br>$x^2 + 2x + 1 \geq -1 \rightarrow x^2 + 2x \geq -2$<br>$\begin{array}{c} -2 \quad 0 \\ +1 \quad -1 \end{array}$<br>$\begin{array}{c} -2 \quad -1 \\ +1 \quad -1 \end{array}$<br><br>$D_f = [-2, 0] \cup [-1, 0]$ | ب) $\cos y = \sqrt{2 - 2x} \quad 0 \leq 2 - 2x \rightarrow x \leq 1$<br>$2 - 2x \leq 1 \rightarrow 2x \geq 1 \rightarrow x \geq \frac{1}{2}$<br>$D_f = \left[ \frac{1}{2}, 1 \right]$                                                                                                                            | 8  |
| ا) $y = \log_v(1 - \log_v x) \quad (x > 0)$<br>$1 - \log_v x > 0$<br>$\log_v x < 1 \rightarrow x < v$<br>$D_f = (0, v)$                                                                                                                                                                                                                                                                   | ب) $y = \log_v(1 - \log_v \frac{x}{v}) \quad (x > 0)$<br>$1 - \log_v \frac{x}{v} > 0$<br>$\log_v \frac{x}{v} < 1 \rightarrow \frac{x}{v} < v \rightarrow x < v^2$<br>$D_f = (0, \frac{1}{v})$<br>ویدی و هم اوقات سال<br>چرا باید علت برگردیم؟ قوی توضیحات هست                                                    | 9  |
| ا) $y = \sqrt{x^2 - 1} \quad x^2 - 1 \geq 0$<br>$x^2 - 1 \leq 0 \rightarrow (x-1)(x+1) \leq 0$<br>$\begin{array}{c} 1 \quad -1 \\ +1 \quad -1 \end{array}$<br>$D_f = [-1, 1]$                                                                                                                                                                                                             | ب) $y = \left( \frac{x^2 + 1}{x^2 + 2} \right)! \quad \frac{x^2 + 1}{x^2 + 2} \in \mathbb{N}$<br>$x^2 + 1 \in \mathbb{N}(x^2 + 2)$<br>$x^2 - 2 \in \mathbb{N}$<br>$x(x-2) \in \mathbb{N} \rightarrow x \in \frac{x^2 - 1}{x - 2}$<br>$D_f = \left\{ x \mid x = \frac{x^2 - 1}{x - 2}, k \in \mathbb{N} \right\}$ | 10 |