

$$y_2 = \frac{x+3}{2x^3+3x^2-1} \neq 0 \quad \left\{ \begin{array}{l} 2x^3+3x^2-1 \neq 0 \\ x-1 \neq 0 \end{array} \right. \Rightarrow R = \{1, 3, -\frac{1}{2}\}$$

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$$y_2 = \frac{x+3}{x^3-2x^2+x-1} \neq 0 \quad \left\{ \begin{array}{l} x^3-2x^2+x-1 \neq 0 \\ x-1 \neq 0 \end{array} \right. \Rightarrow R = \{1\}$$

$$y_2 = \sqrt{\frac{x+3}{x^3-2x^2+x-1}} \geq 0 \quad \left\{ \begin{array}{l} x^3-2x^2+x-1 \geq 0 \\ x-1 \geq 0 \end{array} \right. \Rightarrow x-1 \geq 0 \Rightarrow x \geq 1 \Rightarrow [1, +\infty)$$

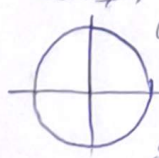
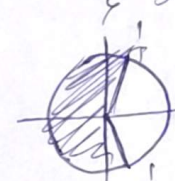
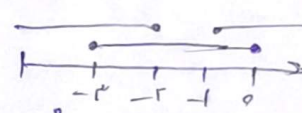
$$y_2 = \frac{2}{x^2-5|x-1|+2x+1} \neq 0 \quad \left\{ \begin{array}{l} x^2-5|x-1|+2x+1 \neq 0 \\ x-1 \neq 0 \end{array} \right. \Rightarrow R = \{-3, 0, 1, 4\}$$

$$y_2 = \sqrt{[x]-2} \geq 0 \Rightarrow [x] \geq 2 \Rightarrow x \geq -2 \Rightarrow [-2, +\infty)$$

$$y_2 = \frac{[x]-1}{[x]-2} \neq 0 \quad \left\{ \begin{array}{l} [x] \neq 2 \\ [x] \neq -1 \end{array} \right. \Rightarrow R = [-1, 0) \cup (2, 3]$$

$$y_2 = \sqrt{[x]-\frac{1}{x}+[x]-\frac{1}{x}} \geq 0 \Rightarrow 2[x] \geq -\frac{1}{x} \Rightarrow [x] \geq -\frac{1}{x} \Rightarrow x \geq 0$$

$$y_2 = \sqrt{[x]-\frac{1}{x}+[-x]-\frac{1}{-x}} \geq 0 \Rightarrow [x]+[-x] \geq 0 \Rightarrow D = \mathbb{Z}$$

$y_2 \cot \alpha \neq 1 \rightarrow \cot \alpha \neq 1 \rightarrow \sin \alpha \neq 0 \rightarrow \alpha \neq k\pi$ $\tan \alpha \neq 1 \rightarrow \tan \alpha \neq 1 \rightarrow \cos \alpha \neq 0 \rightarrow \alpha \neq k\pi + \frac{\pi}{2}$ $\rightarrow \tan \alpha \neq 1 \rightarrow \tan \alpha \neq -1 \rightarrow \alpha \neq k\pi - \frac{\pi}{4}$	$\cot \alpha \neq 1$  $R = \{k\pi, k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{4}\}$	6
$y_2 \sqrt{1 - \sin^2 \alpha} \rightarrow \begin{cases} 1 \geq \sin^2 \alpha \\ \frac{1}{r} \geq \sin^2 \alpha \end{cases} \rightarrow \sin \alpha \leq \frac{1}{r} \rightarrow R = (k\pi + \frac{\pi}{2}, k\pi + \frac{\pi}{r})$		7
$y_2 \sqrt{1 - \cos^2 \alpha} \rightarrow \begin{cases} 1 \geq \cos^2 \alpha \\ \cos \alpha \leq \frac{1}{r} \end{cases} \rightarrow R = (k\pi + \frac{6\pi}{4}, k\pi + \frac{\pi}{r})$		8
$y_2 \arcsin(a^r + a^r + 1) \rightarrow -1 \leq a^r + a^r + 1 \leq 1$ $1 \leq a^r + a^r + 1 \rightarrow a^r + a^r \geq -2 \rightarrow \begin{cases} a^r + a^r \leq 1 \\ a^r + a^r \leq 0 \\ a^r + a^r \leq -2 \end{cases} \rightarrow \begin{cases} a^r + a^r \leq 1 \\ a^r + a^r \leq 0 \\ a^r + a^r \leq -2 \end{cases} \rightarrow D = [-1, -1] \cup [1, 1]$		9
$\cos y = \sqrt{0 - x} \rightarrow -1 \leq \sqrt{0 - x} \leq 1 \rightarrow \begin{cases} 0 \leq -x \leq 1 \\ -x \leq 1 \end{cases} \rightarrow \begin{cases} x \geq 0 \\ x \geq -1 \end{cases} \rightarrow x \geq 0$		
$y_2 \log_r(1 - \log_r^x) \rightarrow \begin{cases} \text{(I)} \rightarrow 1 - \log_r^x > 0 \rightarrow \log_r^x < 1 \rightarrow x < r \\ \text{(II)} \rightarrow -\log_r^x > 0 \rightarrow x > 1 \end{cases} \rightarrow 1 < x < r$		9
$y_2 \log_r(1 - \log_r^{\frac{x}{r}}) \rightarrow \begin{cases} \text{(I)} \rightarrow 1 - \log_r^{\frac{x}{r}} > 0 \rightarrow \log_r^{\frac{x}{r}} < 1 \rightarrow \frac{x}{r} < r \\ \text{(II)} \rightarrow \log_r^{\frac{x}{r}} > 0 \rightarrow \frac{x}{r} > 1 \end{cases} \rightarrow \frac{1}{r} < x < r$		9
$y_2 \sqrt{\frac{r^2 - x^2}{r}} \rightarrow \begin{cases} r^2 - x^2 \geq 0 \\ r^2 - x^2 \geq r \end{cases} \rightarrow \begin{cases} x \leq r \\ x \geq 1 \end{cases} \rightarrow x \geq 1$ $\Rightarrow \begin{cases} x \geq r \\ x \geq 1 \end{cases} \rightarrow x \geq r$ $y_2 \left(\frac{r^2 - \omega}{r^2 + f}\right)! \in W \rightarrow \frac{r^2 - \omega}{r^2 + f} \in W \rightarrow \begin{cases} r^2 + 0 = r^2 + W + fW \\ r^2 - fW = fW - 0 \end{cases} \rightarrow x = \frac{fW - \omega}{r^2 - fW}$		10