



$$\text{ا) } \sqrt{f - rx^2} \rightarrow r(x^2) \leq f \rightarrow x^2 \leq r \rightarrow x \leq \sqrt{r} \rightarrow D_f: (-\infty, \sqrt{r}]$$

$$\rightarrow \sqrt{r|x| - 9} \rightarrow r|x| - 9 \geq 0 \rightarrow r|x| \geq 9 \rightarrow |x| \geq \frac{9}{r} \rightarrow D_f: (-\infty, -\frac{9}{r}] \cup [\frac{9}{r}, +\infty)$$

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$$\text{ا) } \sqrt{\frac{|x|+1}{|x|-r}} \rightarrow D_f: \mathbb{R} - \{r, -r\}$$

$$\rightarrow \sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-r}} \rightarrow D_f: \mathbb{R} - \{r\}$$

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$$\text{ا) } \frac{\sin x}{r \cos x - 1} \rightarrow r \cos x \neq 1 \rightarrow \cos x \neq \frac{1}{r} \rightarrow D_f: \mathbb{R} - \{rk\pi \pm \frac{\pi}{r}\}$$

$$\rightarrow \frac{\cos x + 1}{r \sin x + 1} \rightarrow r \sin x \neq -1 \rightarrow \sin x \neq -\frac{1}{r} \rightarrow D_f: \mathbb{R} - \{rk\pi - \frac{\pi}{r}, rk\pi + \frac{\pi}{r}\}$$

$$\text{ج) } \frac{\tan x + r}{\cot x - 1} \rightarrow \cot x \neq 1 \rightarrow D_f: \mathbb{R} - \{\frac{k\pi}{r}, k\pi + \frac{\pi}{r}\}$$

$$\text{د) } \frac{\sin x + 1}{r \sin x - r} \rightarrow r \sin x \neq r \rightarrow \sin x \neq \frac{r}{r} \rightarrow D_f: \mathbb{R} - \{rk\pi + \frac{\pi}{r}, rk\pi + \frac{\pi}{r}\}$$

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$$\frac{1}{\sqrt{r|x-r| - \frac{1}{r}}} \rightarrow r|x-r| - \frac{1}{r} > 0 \rightarrow r|x-r| > \frac{1}{r} \rightarrow |x-r| > \frac{1}{r^2} \rightarrow x-r > \frac{1}{r^2}, x-r < -\frac{1}{r^2}$$

$$D_f: (-\infty, -\frac{1}{r^2}) \cup (\frac{1}{r^2}, +\infty)$$

9

$$\text{ا) } \sqrt{f - r|x|} \rightarrow f - r|x| \geq 0 \rightarrow r|x| \leq f \rightarrow |x| \leq r \rightarrow x \leq r, x \geq -r$$

$$D_f: [-r, r]$$

$$\rightarrow \sqrt{\frac{|x|}{|x|}} \rightarrow D_f: \mathbb{R} - \{0\}$$

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