

$$1) y = \sqrt{r - [x]} = r - [x] \geq 0 \quad r \geq [x] \quad Df = (-\infty, r)$$

$$2) y = \frac{1}{\sqrt{r - [x]}} \quad r - [x] > 0 \quad [x] < r \quad Df = (-\infty, r)$$

$$3) y = \frac{1}{x[x]} \quad x[x] \neq 0 \quad \begin{cases} x \neq 0 \\ [x] \neq [0, 1) \end{cases} \quad Df = (-\infty, 0) \cup (1, +\infty)$$

$$4) y = \frac{1}{-x[x]} \quad -x[x] \neq 0 \rightarrow Df = (\emptyset)$$

هذه ليست دالة

$$y = \sqrt{[n - \frac{1}{r}] + [n + \frac{r}{r}]} \Rightarrow [n - \frac{1}{r}] + [n + \frac{r}{r} - 1] \geq -1 \Rightarrow [n - \frac{1}{r}] + [n - \frac{1}{r}] \geq -1 \quad r[n - \frac{1}{r}] \geq -1 \quad [n - \frac{1}{r}] \geq -\frac{1}{r}$$

$$y = \sqrt{[n - \frac{1}{r}] + [-n + \frac{1}{r}]} \Rightarrow [n - \frac{1}{r}] + [-(n - \frac{1}{r})] \geq 0$$

$$[a] + [-a] = 0 \quad a \in \mathbb{Z} \quad n - \frac{1}{r} \in \mathbb{Z} \quad \{n \mid n = k + \frac{1}{r}, k \in \mathbb{Z}\}$$

$$1) y = \frac{1}{r \sin^2 x - 1} \rightarrow r \sin^2 x - 1 \neq 0 \quad r \sin^2 x \neq 1 \quad \sin^2 x \neq \frac{1}{r}$$

$$\sin x \neq \pm \frac{\sqrt{r}}{r} \quad Df = \mathbb{R} - \left\{ \frac{ka}{r} + \frac{a}{r} \right\}$$

$$2) y = \frac{\cot x + 1}{\tan x + 1} \quad \begin{cases} \tan x + 1 \neq 0 & \tan x \neq -1 \\ \cos x \neq 0 \end{cases} \quad Df = \mathbb{R} - \left\{ ka \pm \frac{a}{r}, ka + \frac{a}{r} \right\}$$

$$3) y = \sqrt{r \sin x - 1} \rightarrow r \sin x - 1 \geq 0 \quad r \sin x \geq 1 \quad \sin x \geq \frac{1}{r}$$

$$Df = \left[rka + \frac{a}{r}, rka + \frac{2a}{r} \right]$$

$$y = \sqrt{1 - r \cos x} \rightarrow 1 - r \cos x \geq 0 \quad r \cos x \leq 1 \quad \cos x \leq \frac{1}{r}$$

$$Df = \left[rka + \frac{a}{r}, rka + \frac{2a}{r} \right]$$