

$$f(-x) - x f(x) = 2|x| + 1 \rightarrow f(-x) = 2|x| + 1 + x f(x)$$

$$f(x) + x f(-x) = 2|x| + 1 \rightarrow f(-x) + x f(-x) = 2|x| + 1 + x f(x)$$

$$\rightarrow f(x) = 2|x| + 1 - x f(-x)$$

$$f(-x) = 2|x| + 1 + x f(x)$$

$$\rightarrow f(x) = \frac{2|x| + 1 - x(2|x| + 1 + x f(x))}{1 - x^2}$$

$$2f(0) = 4 \rightarrow f(0) = 2$$

$$\rightarrow f(x) = x^2 - 2x + 2 \rightarrow f(x^2) = x^4 - 2x^2 + 2$$

$$y = \frac{x^2 + x + 1}{x - 1} \rightarrow \partial x - y = x^2 + x + 1$$

$$\rightarrow x^2 + (1-2)x + 2 = 0 \rightarrow x = \frac{2-1 \pm \sqrt{2^2 - 4(1-2)}}{2} = \frac{1 \pm \sqrt{5}}{2}$$

$$\Rightarrow x = \frac{2-1 \pm \sqrt{2^2 - 4(1-2)}}{2} \rightarrow R_{f+} = R_f = \mathbb{R} - (-1, \sqrt{5})$$

$$1) x_s = \frac{\partial}{\partial} \rightarrow \partial_s = \frac{\partial}{\partial} \frac{\partial}{\partial} - \frac{\partial}{\partial} \frac{\partial}{\partial} + 1 = 1 - \frac{\partial}{\partial} = \frac{-1}{\partial} \rightarrow R_{f+} = \left[\frac{-1}{\partial}, +\infty \right)$$

$$2) \partial = \sqrt{g(x)} \rightarrow R_{g(x)} = \mathbb{R} - (-\infty, 4] \rightarrow R_{f+} = \sqrt{R_{g(x)}} = [0, 2]$$

$$3) R_{g(x)} = \mathbb{R} \rightarrow R_{f+} = [0, +\infty)$$

$$4) \partial = 1 + g(x) \rightarrow R_{f+} = R_{g(x)} = \mathbb{R}$$

$$1) \partial = \frac{1}{x} \rightarrow R_{f+} = \mathbb{R} - \left\{ \frac{1}{x} \right\}$$

$$2) \sqrt{g(x)} \rightarrow R_{f+} = \mathbb{R} - \{1\}$$

$$3) \frac{x^2 + 1}{\sqrt{x^2 + 1}} = \sqrt{x^2 + 1} + \frac{1}{\sqrt{x^2 + 1}} \rightarrow R_{f+} = \left[\frac{1}{\sqrt{2}}, +\infty \right)$$

$$1) \partial = x + \frac{1}{x^2 + 1} \rightarrow \partial' = 1 - \frac{2x}{(x^2 + 1)^2} = 0 \rightarrow x = 0 \rightarrow \min \partial = \frac{1}{2}$$

$$g = \frac{ru^r + r}{u^r - 1} \rightarrow \partial u^r - g = ru^r + r \quad \forall (\partial - r)u^r = \partial + r$$

$$\rightarrow u^r = \frac{\partial + r}{\partial - r} > 0 \rightarrow \mathcal{D}_{f^{-1}} = R_f = [R - \cancel{(-r, r)}]$$

$$y \leq u^r < +\infty \rightarrow \frac{\infty + r}{\infty - 1} = r$$

$$\rightarrow \frac{ru + r}{u - 1} = r \quad \text{مربع می شود}$$

$$\rightarrow (-\infty, -r] \cup [r, +\infty)$$

$$\rightarrow r = \frac{ru^r + r}{u^r - 1} \rightarrow -r = r$$

$$\square = \sin(\pi) \rightarrow \subset \text{مربع می شود}$$

$$-1 \leq \square \leq 1 \rightarrow \frac{-r + r}{-1 - r} = \frac{r}{-r} = -\frac{1}{r} \quad \left\{ \begin{array}{l} [-r, -\frac{1}{r}] \\ \times \text{مربع می شود} \end{array} \right.$$

$$\rightarrow \frac{r + r}{1 - r} = \frac{r}{-r} = -r$$

$$\text{و } g(n) = \frac{ru - 1}{r n} \rightarrow \mathcal{D}(n) \rightarrow$$

$$g(n) = \frac{ru - 1}{r n} \rightarrow R_f = [0, +\infty)$$

$$g(n) = \frac{ru - 1}{r n} \rightarrow R_f = \left\{ \frac{r}{r} \right\}$$

$$n \rightarrow u^r - r u \rightarrow$$

$$n \rightarrow -u^r - r u \rightarrow$$

$$f(n):$$

$$R_f = R$$

$$f(n) = \left| \frac{ru}{r} - r \right| - r$$

$$f(|x|) = f(n) \rightarrow f(|x| + 1):$$

$$g = \left| \frac{ru}{r} - r \right| - 1$$

$$\rightarrow g = |f(n) + 1| \rightarrow$$

