

$f_0 = 1/2 + 1/2 = 1$ $\alpha =$

$f(x) = f(-x) + \alpha$ $f(x) = \begin{cases} (x+1)(x+1) & ; x > 1 \\ x\alpha + 1/x & ; x \leq 1 \end{cases}$

~~$1/x + 1/x = x\alpha - 1/x + 1/x = x\alpha$~~ ~~$1/x + 1/x = x\alpha - 1/x$~~ ~~$\alpha = -1/1$~~

$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + 1$ $f(1-\sqrt{x}) + f(1+\sqrt{x}) =$

$\sqrt{1-\sqrt{x}} + \frac{1}{\sqrt{1-\sqrt{x}}} + 1 + \sqrt{1+\sqrt{x}} + \frac{1}{\sqrt{1+\sqrt{x}}} + 1 = \sqrt{1-\sqrt{x}} + \frac{1}{\sqrt{1-\sqrt{x}}} + \sqrt{1+\sqrt{x}} + \frac{1}{\sqrt{1+\sqrt{x}}} + 2$

$f(x) = ?$ x^2

$f(x) - x^2 f(-x) = x^2 x^2 - x$ $\alpha \rightarrow -\alpha$

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

$x^2 f(x) - x^2 f(-x) + x^2 f(-x) - x^2 f(x) = x^2 x^2 + x - x^2 x^2 - x$

$(x+1) f(x) - x f(x+1) = x^2 x^2 - m x + 1/m - 1$ $f(0) =$

$x=0$ $x^2 f(0) = x^2 m - 1 \Rightarrow x^2 f(0) = x^2 m - 1 = x^2 x^2$ $\Rightarrow x^2 m - 1 = x^2 x^2 + 1/x^2$ $\Rightarrow m = x^2/x^2$ $f_0 = 1/x^2$

$x=-1$ $x^2 f_0 = 1/x^2 + x^2 m + 1/m - 1$ $\Rightarrow m = 1/x^2$

$f(x) + f(1/x) = \frac{x^2 x^2 - 1/m + 1}{x}$ $f(-1) = ?$

$x=-1$ $\Rightarrow x^2 f(-1) = \frac{x^2 + 1/x^2 + 1}{-1} = -1$ $f(1) = 1$

4 - تساوی بر/س شود
دامنه برابر
وفا به یکدیگر
کار می کنند

$$f(n) = (n-1)\sqrt{1-n} \quad R = [-1, 0] \quad D_f = [-\infty, 1]$$

$$g(n) = -\sqrt{(1-n)^3} \quad R = [-1, 0] \quad D_g = [-\infty, 1]$$

$$(n-1)\sqrt{1-n} = -\sqrt{(1-n)^3}$$

81 - تساوی بر/س شود
دامنه برابر
تابع برابرند
در این ای هر n فرد و معری دهند

$$f(n) = [\sqrt{n} - \lfloor \sqrt{n} \rfloor] \quad D = [0, +\infty) \quad R = \{0\}$$

$$g(n) = \sqrt{n - \lfloor n \rfloor} \quad D = [0, +\infty) \quad R = \{0\}$$

$$[\sqrt{n} - \lfloor \sqrt{n} \rfloor] \leq \sqrt{n} \Rightarrow \sqrt{n} - \lfloor \sqrt{n} \rfloor \leq \sqrt{n} \Rightarrow \sqrt{n} - \lfloor n \rfloor < 1$$

تساوی
تابع برابرند
دامنه هر تابع برابر و فاصله هر یکسان و هر فرد و یکسان است

$$\begin{cases} f(n) = n\sqrt{n} & D = [0, +\infty) \\ g(n) = \sqrt{n^3} & D = [0, +\infty) \end{cases} \quad n \geq 0 \Rightarrow n\sqrt{n} = \sqrt{n^3}$$

$$f = \{(1, 2), (2, 3), (3, 1), (0, 0)\} \quad g = \{(1, 1), (2, 3), (3, 1), (0, 0), (-1, 1)\}$$

$$الف) \left(\frac{f+g}{f-g} \right)(1) = \frac{1+1}{1-1} = \text{undefined}$$

$$ب) \left(\frac{f+g}{f-g} \right)(2) = \frac{1+3}{1-3} = -1$$

تعریف نشده

$$ج) f(0) \cdot g(-1) = 1 \cdot 1 = 1$$

$$f(n) = \{(1, 2), (2, 3), (3, 1), (0, 0), (-1, 1)\}$$

$$د) h(n) = f(1/n) = \{(1, 2), (1/2, 3), (1/3, 1), (0, 0), (-1, 1)\}$$