

$$f(x) = (x-1)\sqrt{1-x} \rightarrow 1-x \neq 0 \rightarrow 1 \neq x$$

سین دو تابع مساوی نمی باشند.

$$g(x) = -\sqrt[3]{(1-x)^3} \rightarrow 1-x \neq 0 \rightarrow 1 \neq x$$

دامنه ها برابر

$$\hookrightarrow -|x-1|\sqrt{1-x} \quad \begin{matrix} x \neq 1 \\ x \neq 1 \end{matrix} \xrightarrow{\text{مساوی}} \frac{-(x-1)\sqrt{1-x}}{x \neq 1}$$

اما جواب ها

مساوی اند.

$$f(x) = x\sqrt{x} \rightarrow \text{همواره } x \neq 0$$

دو تابع مساوی اند.

$$g(x) = \sqrt{x^3} \rightarrow \sqrt{x^2 x} \rightarrow |x|\sqrt{x} \xrightarrow{x \neq 0} \text{همواره } x \neq 0 \rightarrow x\sqrt{x}$$

در هر دو

برابر

در هر دو برابر است.

$$f(x) = [\sqrt{x} - [\sqrt{x}]] = [\sqrt{x}] - [\sqrt{x}] \equiv 0 \quad \text{همواره صفر} \rightarrow \text{مساوی جواب}$$

$$g(x) = \sqrt{x - |x|} \quad \begin{matrix} x \neq 0 \\ x = 0 \\ x < 0 \end{matrix} \rightarrow \begin{matrix} \sqrt{2x} \\ 0 \\ 0 \end{matrix}$$

در هر دو مساوی است
سین برابر نمی باشند

$$f = \{(1,2), (2,3), (3,1), (0,0)\} \quad g = \{(-1,1), (1,1), (2,3), (3,5), (0,2), (\sqrt{2},1)\}$$

$$\text{اگر } \left(\frac{f+g}{f-g}\right)(1) = \frac{f+1}{f-1} = \frac{1+1}{1-1} = \frac{2}{0}$$

$$\rightarrow \left(\frac{f+g}{f-g}\right)(2) \rightarrow \frac{f+2}{f-2} \rightarrow \frac{f+2}{f-2} \neq 0$$

$$\frac{f+1}{f-1} \neq \frac{f+2}{f-2} \quad \text{مساوی نیست}$$

$$c) f(0) \cdot g(-1) \rightarrow 0 \times 1 = 0$$

$$f(x) = \{(1,1), (-1,4), (0,5), (-2,2), (3,-1)\}$$

$$g(x) = f(x-1) \rightarrow g(x) = \{(2,1), (-2,4), (-1,5), (-3,2), (4,-1)\}$$

$$h(x) = f(|x|) \rightarrow h(x) = \{(1,1), (1,4), (0,5), (2,2), (3,-1)\}$$

تابع نیست

$$r f(x) = f(-r) + a$$

$$f(m) \begin{cases} (a+1)/(m+2) \rightarrow m > 1 \\ ra+rx \rightarrow m \leq 1 \end{cases}$$

$$r(a+1)(r) = -r + ra + a$$

$$1f(a+1) = ra - r \rightarrow 1fa + f = fa - f \rightarrow 1 \cdot a = 1 \rightarrow a = 1$$

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

$$\begin{aligned} r - \sqrt{r} &= a \rightarrow ar = 1 \\ r + \sqrt{r} &= z \end{aligned} \quad \left| \begin{aligned} z &= \frac{1}{a} \end{aligned} \right.$$

$$f(r - \sqrt{r}) + f(r + \sqrt{r}) = \sqrt{a} + \frac{1}{\sqrt{a}} + r + \sqrt{z} + \frac{1}{\sqrt{z}} + r = \sqrt{z}$$

$$\sqrt{a} + \frac{1}{\sqrt{a}} + r + \frac{1}{\sqrt{a}} + \sqrt{a} + r = r \left(\sqrt{a} + \frac{1}{\sqrt{a}} \right) + r$$

$$r(\sqrt{r - \sqrt{r}} + \sqrt{r + \sqrt{r}}) + r = r + r\sqrt{r} \rightarrow$$

$$(\sqrt{r - \sqrt{r}} + \sqrt{r + \sqrt{r}})^2 = r - \sqrt{r} + r + \sqrt{r} + 2r = 4r \rightarrow \sqrt{r - \sqrt{r}} + \sqrt{r + \sqrt{r}} = \sqrt{4r}$$

$$\begin{aligned} (r f(x) - r f(-x) &= rx^r - x) \times r \rightarrow r f(x) - 4f(-x) = 1x^r - rx \\ (r f(x) - r f(x) &= rx^r + x) \times r \rightarrow 4f(-x) - 9f(x) = 1x^r + rx \end{aligned} \quad \left. \begin{aligned} & \\ & \end{aligned} \right\}$$

$$\rightarrow 5f(x) = rx^r + x$$

$$f(x) = -\frac{r}{5}x^r - \frac{1}{5}x$$

$$(n+r)f(x) - r f(n+r) = rx^r - mx + r^{m-1} \quad f(0) = ?$$

$$n=0 \rightarrow r f(0) - 0 = r^{m-1} \rightarrow f(0) = \frac{r^{m-1}}{r}$$

$$n=-r \rightarrow 0 + r(-r)^r - m(-r) + r^{m-1} = f(0)f(-r) - r(-r)f(0)$$

$$14 + rm + r^{m-1} = 4f(0) \quad f(0) = \frac{14 + rm}{4}$$

$$\frac{r^{m-1}}{r} = \frac{14 + rm}{4} \rightarrow \frac{r^{m-1}}{r} + 1 = \frac{14m}{4} \rightarrow \frac{r^m}{r} = 1m$$

$$f(0) \rightarrow \frac{r^m}{r} - 1 \rightarrow \frac{r^m}{r} - \frac{r}{r} = f(0)$$

$$f(m) + f\left(\frac{1}{m}\right) = r m^r - 1r + r$$

$$ax + b + \frac{a}{x} + b = \frac{a x^r + r b x + a}{x} \rightarrow$$

$$r b = -1r - b = -r \quad \boxed{a=r}$$

$$\begin{aligned} f(x) &= ax + b \\ f(x) &= -rx - r \end{aligned}$$

$$f(-1) = -r - r = -2r$$