

$$f(a) = f(-1) + a$$

$$f(a+1) = f(a) + 1$$

$$f(a+1) = f(a) + 1$$

$$f(a) = -1 \Rightarrow a = -\frac{1}{10}$$

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

$$f(2+\sqrt{3}) \rightarrow \sqrt{2+\sqrt{3}} + \frac{1}{\sqrt{2+\sqrt{3}}} + 1 \rightarrow \frac{\sqrt{3}+1}{\sqrt{2}} + \frac{\sqrt{3}-1}{\sqrt{2}} + 1$$

$$f(2-\sqrt{3}) \rightarrow \sqrt{2-\sqrt{3}} + \frac{1}{\sqrt{2-\sqrt{3}}} + 1 \rightarrow \frac{\sqrt{3}-1}{\sqrt{2}} + \frac{\sqrt{3}+1}{\sqrt{2}} + 1$$

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$$f(x) - f(-x) = x^2 - x \Rightarrow f(x) - f(-x) = x^2 - x$$

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

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

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

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$$x=0 \rightarrow f(0) = \frac{m-1}{2}$$

$$x+1=0 \Rightarrow x=-1 \rightarrow f(-1) = f(-1) - m(-1) + m-1$$

$$f(-1) = 1 + m + m-1$$

$$f(-1) = 1 + 2m$$

$$\frac{m-1}{2} = \frac{1+2m}{2}$$

$$m-1 = 1+2m$$

$$\frac{m}{2} = \frac{2}{2} = 1$$

$$f(0) = \frac{1-1}{2} = 0$$

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$$f(x) + f\left(\frac{1}{x}\right) = x - 1 + \frac{1}{x} \quad x \neq 0$$

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

$$2f(-1) = -3 - 1 = -4$$

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

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

$$f(x) \neq g(x)$$

$$D_f \neq D_g$$

$$g(x) = -\sqrt{(1-x)^3} = -(1-x)\sqrt{1-x} = -|1-x|\sqrt{1-x} \rightarrow ? \quad \times$$

عبارت زیر رادیکال نامنفی است!

$$D_g \rightarrow (1-x)^3 \geq 0 \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \rightarrow D_f = D_g$$

۱, ۲, ۵

$$f(x) = x\sqrt{x} \rightarrow D_f = [0, +\infty)$$

$$f(x) = g(x)$$

$$D_f = D_g$$

$$g(x) = \sqrt{x^3} = |x|\sqrt{x} \rightarrow D_g = [0, +\infty)$$

✓

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$$f(x) = \left[\sqrt{x} - \left[\sqrt{x} \right] \right] = \left[\sqrt{x} \right] - \left[\sqrt{x} \right] = 0$$

$$D_f = [0, +\infty)$$

$$D_g = D_f$$

$$g(x) = \sqrt{x - |x|} \Rightarrow x - |x| \geq 0 \Rightarrow |x| \leq x \Rightarrow x \geq 0$$

$$D_g = [0, +\infty)$$

✓

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$$f = \left\{ \frac{(1,2)}{(2,3)} \frac{(3,4)}{(4,5)} \frac{(5,6)}{(6,7)} \right\}$$

$$g = \left\{ \frac{(-1,1)}{(1,2)} \frac{(2,3)}{(3,4)} \frac{(4,5)}{(5,6)} \frac{(6,7)}{(7,8)} \right\}$$

الف) $\left(\frac{y+1}{y-1} \right) \Rightarrow 3$

ب) $\left(\frac{y+3}{y-3} \right) \Rightarrow 6$

ج) $f(0)g(-1) = 0 \times 1 = 0$

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الف) $g(x) = f(3x-1)$

$$3x-1 = 1 \Rightarrow x = \frac{2}{3}$$

$$3x-1 = -1 \Rightarrow x = 0$$

$$3x-1 = 0 \Rightarrow x = \frac{1}{3}$$

$$3x-1 = -1 \Rightarrow x = 0$$

$$3x-1 = 1 \Rightarrow x = \frac{2}{3}$$

$$g(x) = \left\{ (1,1) (0,2) \left(\frac{1}{3}, 0 \right) \left(-\frac{1}{3}, 2 \right) \left(\frac{2}{3}, -1 \right) \right\}$$

ب) $h(x) = f(|x|)$

$$|x| = 1 \quad x = \pm 1$$

$$|x| = -1 \quad |x| = -1 \times$$

$$|x| = 0 \quad x = 0$$

$$|x| = 3 \quad x = \pm 3$$

$$h(x) = \left\{ (1,1) (-1,1) (0,2) \left(\frac{1}{3}, 0 \right) \left(-\frac{1}{3}, 2 \right) \left(\frac{2}{3}, -1 \right) \right\}$$

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سایه از شما

♡♡ معتمد

$$f(x) = (x-1)\sqrt{1-x} \rightarrow D_f = 1-x \geq 0 \rightarrow x \leq 1 \rightarrow D_f = (-\infty, 1]$$

$$g(x) = -\sqrt{(1-x)^3} \rightarrow D_g = (1-x)^3 \geq 0 \rightarrow x \leq 1 \rightarrow D_g = (-\infty, 1]$$

(4)

$D_f \cap D_g \checkmark$ (دامنه) شرط اول برقرار است!

$$g(x) = -\sqrt{(1-x)^3} = -\sqrt{(1-x)^2(1-x)} = -|1-x|\sqrt{1-x} \xrightarrow{x \leq 1} -(1-x)\sqrt{1-x} = (x-1)\sqrt{1-x}$$

$$f - g \checkmark \text{ (ضربها) شرط دوم برقرار است!} \rightarrow \boxed{f(x) = g(x)}$$