

۱۹ آفرین

$$-2 \leq 1 \rightarrow 3a + (-f) = f(-2) \text{ و } f(a) \xrightarrow{\Delta 21} va + v$$

$$2(va + v) = 3a - f + a \rightarrow 1fa + 1f = 3a - f + a$$

$$1a = -1a \rightarrow a = -1a \quad \frac{-4}{\Delta}$$

$$f(x - \sqrt{x}) = \sqrt{x - \sqrt{x}} + \frac{1 \times \sqrt{x + \sqrt{x}}}{\sqrt{x - \sqrt{x}} \times \sqrt{x + \sqrt{x}}} + 2 \rightarrow \sqrt{x - \sqrt{x}} + \frac{\sqrt{x + \sqrt{x}}}{\sqrt{x - \sqrt{x}}} + 2$$

$$f(x + \sqrt{x}) = \sqrt{x + \sqrt{x}} + \frac{1 \times \sqrt{x - \sqrt{x}}}{\sqrt{(x + \sqrt{x})(x - \sqrt{x})}} + 2 = \sqrt{x + \sqrt{x}} + \frac{\sqrt{x - \sqrt{x}}}{\sqrt{x - \sqrt{x}}} + 2$$

$$2\sqrt{x - \sqrt{x}} + 2\sqrt{x + \sqrt{x}} \rightarrow \sqrt{x - \sqrt{x}} + \sqrt{x + \sqrt{x}} = \sqrt{4} \rightarrow 2\sqrt{4} + 2$$

$$n = n \rightarrow (2f(n) - 3f(-n)) = f(n^2 - n) \times 2 \rightarrow 2f(n) - 3f(-n) = 1n^2 - 2n$$

$$n = -n \rightarrow (2f(-n) - 3f(n)) = f(n^2 + n) \times 2 \rightarrow 2f(-n) - 3f(n) = 1n^2 + 2n$$

$$f(n) = \frac{20n^2 + n}{-2} \Rightarrow f(n) = -10n^2 - \frac{n}{2}$$

$$-2f(n) = 20n^2 + n$$

$$n = 0 \rightarrow 2f(0) = 3m - 1 \rightarrow f(0) = \frac{3m - 1}{2}$$

$$n = -2 \rightarrow 4f(0) = 14 + 2m + 3m - 1 \rightarrow f(0) = \frac{12 + 5m}{4}$$

$$\frac{3m - 1}{2} = \frac{12 + 5m}{4} \rightarrow 4m - 2 = 12 + 5m \rightarrow m = -14$$

$$f(0) = \frac{3(-14) - 1}{2} = \frac{-42 - 1}{2} = -21.5$$

$$an + b + \frac{a}{n} + b = \frac{3n^2 - 12n + 4}{n} \rightarrow \frac{an^2 + 2nb + a}{n} = \frac{3n^2 - 12n + 4}{n}$$

$$an^2 + 2nb + a = 3n^2 - 12n + 4$$

$$a = 3$$

$$2b = -12 \rightarrow b = -6$$

$$f(n) = 3n - 6$$

$$f(-1) = -3 - 6 = -9$$

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

$$g(x) = -\sqrt{(1-x)^3} \rightarrow Dg = \mathbb{R}$$

$$Df \neq Dg$$

برابر نیستند
برابر هستند!

①

$$(1-x)^3 \geq 0 \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \rightarrow Df = Dg = (-\infty, 1]$$

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

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

برابرند

②

$$f(x) = [\sqrt{x} - [\sqrt{x}]] \rightarrow x \geq 0 \rightarrow Df = \mathbb{R}^+, \{0\}$$

$$g(x) = \sqrt{x-|x|} \rightarrow x-|x| \geq 0 \rightarrow x \geq |x| \rightarrow Dg = \mathbb{R}^+, \{0\}$$

برابرند

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

تعریف شده

$$\left(\frac{f+g}{f-g}\right) = \{(0,-1), (1,4), (2,-\frac{4}{3})\}$$

③

الف) $\left(\frac{f+g}{f-g}\right)(1) = 4$ ب) $\left(\frac{f+g}{f-g}\right)(2) =$ تعریف نشده

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

الف)

$$3x-1=2 \rightarrow x=1, \quad 3x-1=-1 \Rightarrow x=0, \quad 3x-1=0 \Rightarrow x=1/3$$

$$3x-1=-2 \rightarrow x=-1/3, \quad 3x-1=3 \Rightarrow 4/3=x$$

$$g(x) = \{(1,1), (0,4), (1/3, \infty), (-1/3, 2), (4/3, -1)\}$$

④

$$|x|=2, |x|=0, |x|=4 \rightarrow x = -2, -2, 0, 2, 3$$

ب)

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

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

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

(4)

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

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

$f - g$ (ضربها) شرط دوم برقرار است! $\checkmark \rightarrow f(n) = g(n)$