

۲. آفرین عالی نوشتار

$f(a+1) \rightsquigarrow n=a+1 \rightsquigarrow a > 1 \text{ و } a \in \mathbb{Z}^+ \Rightarrow f(a+1) = (a+1)(a+1) = v(a+1)$

$f(-1) \rightsquigarrow n=-1 \rightsquigarrow n \leq 1 \text{ و } n \in \mathbb{Z}^- \Rightarrow f(-1) = 1a - 1 \Rightarrow 1f(a) = f(-1) + a$

$$1 \times v(a+1) = 1a - 1 + a \Rightarrow \frac{va+v}{1a-1} = \frac{1a-1+a}{1a-1} \Rightarrow \frac{va+v}{1a-1} = \frac{2a-1}{1a-1}$$

$(1-\sqrt{e})(1+\sqrt{e}) = 1 \Rightarrow \frac{1}{1+\sqrt{e}} = \frac{1}{1-\sqrt{e}}$

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

$f(1+\sqrt{e}) = f\left(\frac{1}{1-\sqrt{e}}\right) = f(1-\sqrt{e})$, $f(1-\sqrt{e}) + f(1+\sqrt{e}) = 2f(1-\sqrt{e})$

$f(a) = \frac{1}{\sqrt{a}} + \sqrt{a} + 1 = k + 1 = a + \frac{1}{a} + 1 = (1-\sqrt{e}) + (1+\sqrt{e}) + 1 = 1+1+1=3 \Rightarrow k=\sqrt{e}$

$I(1-\sqrt{e}) = \sqrt{e} + 1 \Rightarrow f(1-\sqrt{e}) + f(1+\sqrt{e}) = 2(\sqrt{e} + 1) = 2\sqrt{e} + 2$

$$\begin{cases} 1f(a) - 1f(-a) = f(a^2) - a & \times 1 \\ 1f(-a) - 1f(a) = f(a^2) + a & \times 1 \end{cases} \Rightarrow \begin{cases} 1f(a) - 4f(-a) = 1a^2 - 1a \\ 4f(a) - 9f(-a) = 1a^2 + 1a \end{cases} \rightarrow -2f(a) = 1a^2 + a$$

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

$\xrightarrow{a=0} 1f(0) = 1a - 1$

$\xrightarrow{a=-1} +4f(0) = 1a + 1a - 1 = 1a + 1a - 1 = 1a + 1a - 1$

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

$1a - 1 = a + \frac{a}{2} \Rightarrow \frac{1}{2}a = 1 \Rightarrow a = 2 \Rightarrow 1f(0) = 1 \times 2 - 1 = 1$

$f(0) = \frac{10}{1} \times \frac{1}{1} = \frac{10}{1} = 10$

$f(a) = a + b \Rightarrow f\left(\frac{1}{a}\right) = \frac{a}{a} + b$

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

$f(a) = (a-1)\sqrt{1-a} \rightsquigarrow D_f = 1-a \geq 0 \Rightarrow 1 \geq a \Rightarrow D_f = (-\infty, 1]$

$g(a) = -\sqrt{(1-a)^3} \rightsquigarrow \frac{1}{+1} = \frac{1}{1} \rightsquigarrow D_g = (-\infty, 1]$

$a=-1 \rightarrow f(-1) = (-1-1)\sqrt{1-(-1)} = -2\sqrt{2}$

$g(-1) = -\sqrt{(1-(-1))^3} = -\sqrt{8} = -2\sqrt{2}$

$\xrightarrow{a=-1} (-1-1)\sqrt{1-(-1)} = -2\sqrt{2} = f(-1)$

$-\sqrt{(1-(-1))^3} = -\sqrt{8} = -2\sqrt{2} = g(-1)$

$D_f = a \geq 0 \rightsquigarrow D_f = [0, +\infty)$

$D_g = [0, +\infty)$

دامنه‌ها برابرند
به هر دو تابع ورود
می‌دهیم تا ببینیم چه می‌شود

$a=0 \rightarrow f(0) = 0$

$g(0) = 0$

$a=1 \rightarrow f(1) = 1$

$g(1) = 1$

$a \neq 1 \rightarrow f(a) = a\sqrt{a}$

$g(a) = \sqrt{a^3} = a\sqrt{a}$

کرده‌اند

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ساوی در

