

۲۰ آفرین ۱۱

$$D_f: x > 1 \quad \log_{\frac{1}{2}}^{x-1} \geq 0 \Rightarrow x-1 \geq 1 \Rightarrow x \geq 2 \Rightarrow D_f = [2, +\infty)$$

$$D_g: -x^2 + 4x - 4 \geq 0 \Rightarrow x^2 - 4x + 4 \leq 0 \Rightarrow (x-2)^2 \leq 0 \Rightarrow \frac{2}{+0+}$$

$$\Rightarrow D_g = \{2\}$$

$$\sqrt{\log_{\frac{1}{2}}^{x-1}} = 2 \Rightarrow \log_{\frac{1}{2}}^{x-1} = 4 \Rightarrow 12 = x-1 \Rightarrow x = 13$$

$$D_{f \circ g} = \{13\} \cap [2, +\infty) = \{13\}$$

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$$2(x^2 - 3x + 1) - 5 = (2x - 5)^2 - 3(2x - 5) + 1$$

$$\Rightarrow 2x^2 - 4x + 2 = 4x^2 - 10x + 25 - 6x + 15 + 1$$

$$\Rightarrow 2x^2 - 4x + 2 = 0$$

$$S = \frac{p_0}{p} = 1. \quad p = \frac{3V}{p}$$

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$$x^2 + 13 = S - 2p \Rightarrow 100 - 2 \times \frac{3V}{p} = 43$$

$$2m = t \Rightarrow m = \frac{t}{2}$$

$$\frac{\Delta t}{\kappa} + 11$$

$$g(m) = \frac{\Delta m}{\kappa} + 11$$

$$g(m-1) = \frac{\Delta(m-1)}{\kappa} + 11$$

$\Rightarrow$

تغییر مقدار ۱۱
(ازای $x=1$)

مقدار تغییر برابر با ۱۱ است

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$$f(g) = f \circ g \Rightarrow 3g - 4 = 3m^2 - 4m - 1 \Rightarrow g = \frac{3m^2 - 4m + 3}{3}$$

$$\Rightarrow x^2 - 2m + 1$$

$$g \circ f = (3x - 4)^2 - 2(3m - 4) + 1$$

$$\Rightarrow 9m^2 - 4xm + 12 - 4m + 9 = 9m^2 - 3xm + 25$$

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$$f \circ g \left\{ \begin{array}{l} x = 0 \text{ از مبدأ} \\ (a_0, 0) \Rightarrow 0 = a_0 a + 2 \end{array} \right.$$

$$a = \frac{-2}{a_0}$$

$$\Rightarrow f \circ g = \frac{-2x}{a_0} + 2$$

$$f - g \left\{ \begin{array}{l} x = 0 \text{ از مبدأ} \\ 0 = \Delta a + \Delta \Rightarrow a = -1 \end{array} \right.$$

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$$f - g = -x + \Delta \Rightarrow f = g - m + \Delta$$

$$2g = 3f - 14$$

$$2g = 3(g - m + \Delta) - 14 \Rightarrow g = 3m - 1$$

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$$f = 3m - 1 - m + \Delta = 2m + 4$$

$$f \circ g = 2(3m - 1) + 4 = 6m + 2 = \frac{-2x}{a_0} + 2$$

$$4 = \frac{-2}{a_0} \Rightarrow a_0 = -\frac{1}{2}$$

$$\log(x) \leq g \circ f(n) \Rightarrow a^{\log x} \leq \log a^x \Rightarrow x^{\log a} \leq a^{\log x}$$

$$\Rightarrow n^r \leq r n \Rightarrow n^r - r n \leq 0 \Rightarrow n(n-r) \leq 0 \begin{cases} n=0 \\ n=r \end{cases}$$

$$\frac{0}{+} \frac{r}{-} \frac{r}{+} \Rightarrow [0, r]$$

0, r جابجایی

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$$f\left(n - \frac{r}{n}\right) = \left(n^r + \frac{r}{n^r} - r\right) + \left(n - \frac{r}{n}\right) \quad n - \frac{r}{n} = t$$

$$f(t) = t^r + t \Rightarrow f(n) = n^r + n$$

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$$D_{\log}: D_g = \mathbb{R} \quad D_f = x > 0 \Rightarrow 1n - n^r > 0 \Rightarrow n^r - 1n < 0 \begin{cases} n=0 \\ n=1 \end{cases} \frac{0}{+} \frac{1}{-} \frac{1}{+}$$

$$\Rightarrow (0, 1) \Rightarrow D_{\log} = \mathbb{R} \cap (0, 1) = (0, 1) = A$$

$$R_{\log}: R_g \Rightarrow \text{بیشتر } x = \frac{-1}{-r} = \frac{1}{r} \Rightarrow (-\infty, \frac{1}{r}]$$

بیشتر y = 1/r

$$R_g = D_f \Rightarrow (0, \frac{1}{r}]$$

بیشتر x است

$$0 < x \leq \frac{1}{r} \Rightarrow 0 < \log x \leq \log \frac{1}{r} \Rightarrow R_{\log} = (0, \frac{1}{r}] = B$$

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$$A \cap B: (0, 1) \cap (0, \frac{1}{r}] = (0, \frac{1}{r}] \rightsquigarrow 1, \frac{1}{r}, \frac{1}{r}, \frac{1}{r} \text{ عضو صفر}$$

$$f(x) = t \Rightarrow f(t) = 1 - \frac{1}{t^r} \Rightarrow f(n) = 1 - \frac{1}{n^r}$$

$$h(g(n)) = (n-1)^r + r(n-1) + 1 \Rightarrow x^r - 1 - \frac{1}{x^r} + \frac{1}{x} + 1 \Rightarrow x^r - \frac{1}{x^r} + \frac{1}{x} - \frac{1}{x^r} = f(n)$$

$$x^r - \frac{1}{x^r} + \frac{1}{x} - \frac{1}{x^r} = 1 - \frac{1}{x^r} \Rightarrow x^r + \frac{1}{x} - \frac{1}{x^r} = 0$$

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تابع درجه ۳ است پس اریه دارد (موردی در یک نقطه قطع می کند)

$$g(n) \rightsquigarrow f(n) = n \Rightarrow n - \frac{r}{n} = n \Rightarrow \frac{n^r - r}{n} = n \Rightarrow n^r - rn - r = 0$$

$$\Rightarrow (n-r)(n+1) = 0 \begin{cases} n=r \\ n=-1 \end{cases}$$

$$g\left(\frac{r}{-1}\right) = -a - r = 1 \Rightarrow a = -1$$

$$g\left(\frac{r}{1}\right) = 4ra + 1 = 1 \Rightarrow a = 0$$

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