

V, 25

تاریخ شماره

ایستادن و نوشتن

$$f(n) = \left(\frac{1}{x}\right)^{n-x} - 1 = x^{x-n} - 1 \quad x^{x-(n+1)} = x^{x-n-1} = x^{x-n} \cdot x^{-1} = \frac{x^{x-n}}{x} = x^{x-n-1}$$

(1) (175)

$$y = \sqrt{x^x f(n+1)} = \sqrt{x^x (x^{x-n-1} - 1)} \Rightarrow x^x x^{x-n-1} \Rightarrow x^{2x-n-1}$$

$$x^{2x-n-1} = 0 \Rightarrow x^{2x-n-1} = 0 \Rightarrow x^{2x-n-1} = 0 \Rightarrow x^{2x-n-1} = 0$$

$$D = [0, 1]$$

$$f(n) = \sqrt{x + |x+2|} \rightarrow f(-n) = \sqrt{-x + |2-n|}$$

(2) (2)

$$\Rightarrow -x + |2-n| \geq 0 \Rightarrow |2-n| \geq x \Rightarrow 2-n \geq x \Rightarrow 2-x \geq n \Rightarrow n \leq 2-x$$

$$y = \sqrt{\frac{x-1}{f(n)}} \rightarrow \frac{n-1}{f(n)}$$

$$\Rightarrow \dots$$

$$\Rightarrow 1) f = (2, 3)$$

با n = 1 ریشه صغیر 2 و 3 و 4 ریشه ها
خرج ریشه تعیین علامت کنیم. $(-4, 3) \cup (2, 3)$

$$Dy_1 \Rightarrow 9a^2 - 7a^2 - 4a - 3 \neq 0 \Rightarrow (4a + \sqrt{4a+1})^2 (4a - \sqrt{4a+1})^2$$

$$\Rightarrow x_1 = \frac{\sqrt{4a+1}}{2} \quad x_2 = \frac{-\sqrt{4a+1}}{2}$$

$$Dy_1 = 12 - \left\{ \frac{\sqrt{4a+1}}{2} + \frac{-\sqrt{4a+1}}{2} \right\}$$

$$\Rightarrow y_2 \Rightarrow (x + \frac{\sqrt{4a+1}}{2})(x + \frac{-\sqrt{4a+1}}{2}) = x^2 + \frac{1}{4}x - \frac{1}{4} = 3x^2 + x - 1$$

$$\Rightarrow a = +1 \quad b = -1$$

$$\Rightarrow \sqrt{-(a+b)} = \sqrt{-(1+(-1))} = \sqrt{0} = 0$$

Year. Month. Date.

تاریخ فارسی

نام و نام خانوادگی

امید روز خوارس

$$f(x) = x^3 \cdot x \rightarrow f(n) - f\left(\frac{x}{n}\right) = ?$$

$$f(n) = \frac{x^3}{n}, f\left(\frac{x}{n}\right) = \frac{\frac{x^3}{n^3} \cdot \frac{x}{n}}{\frac{x^3}{n^3}} = \frac{4x + 4n^2}{x^3}$$

$$f(n) - f\left(\frac{x}{n}\right) = \frac{x^4 + n^4 - 4x - 4n^2}{x^3} = \frac{x^4 + n^4 - 4n^2 - 4x}{x^3}$$

$$\rightarrow y \Rightarrow f(n) - f\left(\frac{x}{n}\right) \geq 0 \Rightarrow f(n) \geq f\left(\frac{x}{n}\right) \Rightarrow \frac{x^4 + n^4}{x^3} \geq \frac{4x + 4n^2}{x^3}$$

$$\Rightarrow x^4(n^4 + 1) \geq 4x + 4n^2 \Rightarrow x^4 + n^4 - 4n^2 - 4x \geq 0 \Rightarrow n^4 + x^4 - 4n^2 \geq 4x$$

$$\Rightarrow n^4(x^4 + n^2 - 4) \geq 4x$$

بسیار

$$f(n^2 + n) = 2n^2 - 1 \rightarrow f(r) + f(1.0) = ?$$

$$x^2 + n = 2 \rightarrow x^2 + n - 2 = 0 \Rightarrow n = +1 \rightarrow f(r) = 2(1)^2 - 1 = 2 - 1 = 1 \checkmark$$

$$x^2 + n = 10 \Rightarrow x^2 + n - 10 = 0 \Rightarrow n = +2 \rightarrow f(1.0) = 2(10)^2 - 1 = 200 - 1 = 199 \checkmark$$

$$\rightarrow f(r) + f(1.0) = 1 + 199 = 200$$

$$1 + 199 = 200$$

دقیقت!

$$g(x) = x^3 + 9x^2 + 2\sqrt{x} \rightarrow g(\sqrt[3]{V} - 3) = V - 2V - 9\sqrt[3]{49} + 2\sqrt[3]{V}$$

$$f(x) = x^3 - 4x^2 + 12x \rightarrow f(\sqrt[3]{V} + 2) = 2 + 1 + 4\sqrt[3]{V} + 12\sqrt[3]{V}$$

$$\frac{g(\sqrt[3]{V} - 3)}{f(\sqrt[3]{V} + 2)} = \frac{-2 - 9\sqrt[3]{49} + 2\sqrt[3]{V}}{1 + 4\sqrt[3]{V} + 12\sqrt[3]{V}}$$

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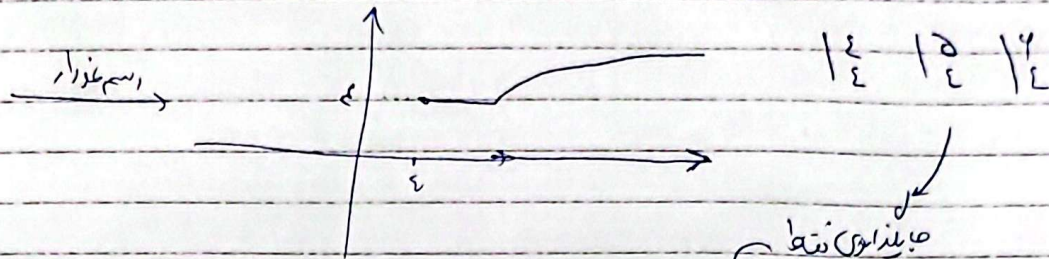
$$g(x) = (x + 3)^3 - 2V$$

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

$$\left\{ \rightarrow \boxed{\text{جواب} = -2} \right\}$$

$$f(x) = \sqrt{x+4}\sqrt{x-2} \quad \text{و} \quad g(x) = \sqrt{x-2}\sqrt{x-2}$$

$$f(x) + g(x) = a+b\sqrt{x+4} = (\sqrt{x+4}\sqrt{x-2}) + (\sqrt{x-2}\sqrt{x-2})$$



$$\begin{aligned} 4 &= a+b\sqrt{4+4} \\ 4 &= a+b\sqrt{4+4} \\ 4 &= a+b\sqrt{4+4} \end{aligned} \quad \left\{ \begin{aligned} &b\sqrt{4+4} = b\sqrt{4+4} = b\sqrt{4+4} \\ &\sqrt{4b^2+b^2} = \sqrt{4b^2+b^2} = \sqrt{4b^2+b^2} \end{aligned} \right.$$

$$\Rightarrow 4b^2 + b^2 = 4b^2 + b^2 = 4b^2 + b^2 \Rightarrow b=0, a=4$$

استخامه !!!

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

$$\rightarrow D_f = \mathbb{R} - \{1\}$$

$$g(x) = \{(2,1)(3,0)(4,1)(5,0)(6,1)\}$$

۱) $\{2, 3, 4, 5, 6\}$ استخامه
۲) $\{1, 0, 1, 0, 1\}$ استخامه

$$\rightarrow g(2) = 1, f(2) = \frac{2}{-1} = -2 \rightarrow \frac{g(2)}{f(2)} = \frac{-1}{-2} = \frac{1}{2}$$

$$\rightarrow g(4) = 1, f(4) = \frac{2}{2} = 1 \rightarrow \frac{g(4)}{f(4)} = \frac{1}{1} = 1$$

$$\Rightarrow \frac{g}{f} = \{(2, \frac{1}{2})(4, 1)\}$$

$$f(x) = \emptyset \rightarrow \text{میانصف فضا ثابت}$$

$$b) f(x^2) = \{(1, 2)\}$$

$$c) 2g(x) + 1 = \{(2, 1)(3, 0)(4, 1)(5, 0)(6, 1)\}$$

$$d) \frac{2f}{g} = \{(1, 4)(2, 1)(-1, 0)\} = \{(1, 4)(2, 1)\}$$