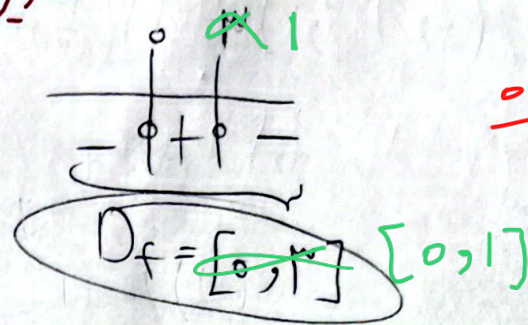


«ایرانی وحید» لاگروه A

14

$$x^3 + (x+1) \geq 0 \rightarrow x = 0 \text{ و } x = -1 \rightarrow \text{در این صورت عبارت فوقی صفر می شود}$$



چقدر سگش بودی

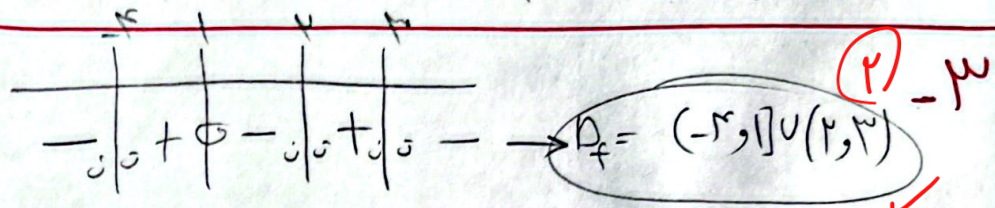
$$x+1=t \rightarrow x=t-1 \rightarrow f(t) = \left(\frac{1}{t}\right)^{t-1}$$

$$f(x+1) = \left(\frac{1}{x}\right)^{x-1} \rightarrow x = 1 \text{ و } x = -1$$

$$f(-x) = \sqrt{x+2-x} \rightarrow 2-x \geq x \rightarrow 2 \geq 2x \rightarrow 1 \geq x = D_{f(-x)}$$

$$f(x) = 0 \rightarrow x = 2, 3, -4$$

$$x-1=0 \rightarrow x=1$$



$$9x^4 - 79x^2 - 29x - 1 = (3x^2 + ax + b)(3x^2 - ax + d)$$

$$9x^4 + (-a^2 + 3(b+d))x^2 + a(d-b)x + bd$$

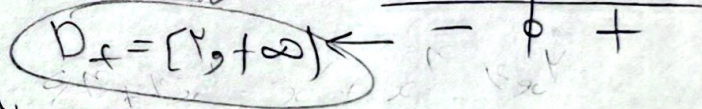
$$\sqrt{-(a+b)} = 2$$

$a = -1, b = -3, d = 1$

$$f(x) \geq f\left(\frac{x}{2}\right) \rightarrow f(x) = f\left(\frac{x}{2}\right) \rightarrow \frac{x^2 + 2x}{x^2} = x + \frac{x}{2} \rightarrow x = 2$$

$$\frac{x}{2} = t \rightarrow \frac{x}{t} = x \rightarrow f(t) = \frac{x^2}{t^2} + \frac{x}{t} = \frac{x^2 + xt}{t^2}$$

پاسخنامه ...



$$f(2) \rightarrow 2(1) - 1 = 1 \quad f(10) \rightarrow 2(2) - 1 = 3 \Rightarrow 3 + 2 = 5$$

$$f(x) = x^3 - 12x + 1 + 1 \rightarrow (x-2) + 1 \rightarrow (\sqrt{x})^3 + 1 = 10$$

$$g(x) = x^3 + 9x^2 + 27x + 27 - 27 \rightarrow (x+3)^3 - 27 = 10 \rightarrow (x+3)^3 = 37 \rightarrow x+3 = \sqrt[3]{37} \rightarrow x = \sqrt[3]{37} - 3$$

$$g(x) = \sqrt{x-2}\sqrt{x-2} \rightarrow \sqrt{(x-2)-2}\sqrt{x-2+2} + \sqrt{(x-2)+2}\sqrt{x-2+2} = \sqrt{(\sqrt{x-2}-2)^2} + \sqrt{(\sqrt{x-2}+2)^2}$$

$$\frac{2}{\sqrt{x-2}} \leftarrow a + b\sqrt{x+c} \Rightarrow a=0, b=\frac{2}{\sqrt{x-2}}, c=-2$$

$$f(x) = \frac{x+1}{(x-1)(x-2)} \rightarrow D_f = \mathbb{R} - \{1, 2\} \cap D_g \Rightarrow \left\{ \left(2, \frac{1}{3}\right), (0, 6) \right\} = \frac{g}{f}$$

۱۵- ریشه دوم باید $\{ (2, 2), (-1, \sqrt{3}), (2, -2) \}$ (ب) $\{ (2, 2), (-1, \frac{3}{4}), (2, \frac{1}{4}), (2, -\frac{1}{4}) \}$ (الف)
 ۲- بلندی $\{ (1, 2), (3, 9), (1, -1), (-2, 19) \}$ (د) $\{ (1, 2), (3, 9) \}$ (ج)
 ۲۰-