

$f(x) = \left(\frac{1}{x}\right)^{x-2}$
 $y = \sqrt{x^3 f(x+1)}$
 (استفاضه) $\rightarrow x=2$ و $f(x+1) = 0$
 علامت را با $\left(\frac{1}{x}\right)^{x-2}$ $-1 < 0 \rightarrow \frac{1}{x} > 2 \rightarrow x < 2$
 علامت را با $x < 2$ $x < 2$

$$P_f \approx [0.9 \ 1]$$

$\begin{array}{c} \leftarrow \\ 0 \end{array} \quad \begin{array}{c} 1 \\ | \end{array}$
 $- \quad 0 \quad + \quad 0 \quad -$

$(\text{استدلال}) \rightarrow \frac{1}{x} \text{ و } b(x) = x^0$

$\hookrightarrow (\frac{1}{x})^{n-1}$

$\rightarrow \frac{1}{x} \cdot 2! \rightarrow \frac{x^{-1} \cdot 2!}{x^2}$

$$(-\infty, 1]$$

$f(-x) \hookrightarrow \sqrt{-x + |-x|} \rightarrow$

$\begin{array}{c} x \leq 1 \\ -x \\ \downarrow \\ -x \end{array}$

$\hookrightarrow -x \geq -x_0 \rightarrow x \leq x_0$

[illegible]

[illegible]

[illegible]

$$f(x^3) = 2x^2$$

$$\hookrightarrow f(1) \rightarrow f(1^3) = 2$$

$$f(16) \rightarrow f(2^4) = 2 \cdot 4 = 8$$

$$f(x) = 2x^3 - 4x^2 + 12x \rightarrow (x-2)^3 + 8$$

$$g(x) = 2x^3 + 9x^2 + 12x \rightarrow (x+3)^3 - 27$$

$$\frac{g(\sqrt{x}-3)}{f(\sqrt{x}+2)} \rightarrow \frac{(\sqrt{x}-3)^3 - 27}{(\sqrt{x}+2)^3 - 8} = -2$$

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

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

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

$$f(x) + g(x) = 2\sqrt{x-4} \rightarrow \frac{2\sqrt{x-4}}{2\sqrt{x-4}} = 1$$

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

$$\hookrightarrow x = \frac{2}{3} \rightarrow \frac{2}{3} - 4 = -\frac{10}{3}$$

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

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

$$f(x) = \left\{ (1, 2), (3, 2), (1, -1), (3, -1) \right\} \quad g(x) = \left\{ (1, 4), (3, 4), (1, -1), (3, -1) \right\}$$