

$$x f(x) > 0$$

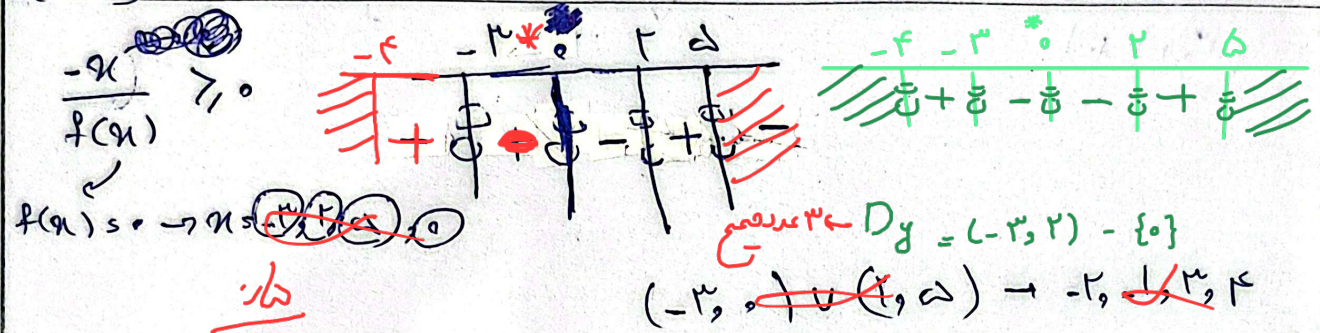
$$[-\infty, 0] \cup [2, \infty]$$

$$[-9, -\infty) \text{ در بازه } \rightarrow x < 0, f(x) > 0 \rightarrow x f(x) < 0 \times$$

$$[-\infty, 0] \text{ در بازه } \rightarrow x \leq 0, f(x) \leq 0 \rightarrow x f(x) \geq 0 \checkmark$$

$$(0, 2) \text{ در بازه } \rightarrow x > 0, f(x) < 0 \rightarrow x f(x) < 0 \times$$

$$[2, \infty) \text{ در بازه } \rightarrow x > 0, f(x) \geq 0 \rightarrow x f(x) \geq 0 \checkmark$$



$$x = 2 \rightarrow f(2) - 2f(2) = \frac{f - 9 + f}{2} \rightarrow -f(2) \leq 2 \rightarrow f(2) = -2$$

$$x = -2 \rightarrow f(-2) - 2f(2) = \frac{f}{2} + 9 + f \rightarrow f(-2) \leq 10$$

$$f(\infty) \rightarrow x \leq a \rightarrow a - \sqrt{a^2 + f} \leq a - 3 \leq 4 \rightarrow$$

$$f(2) \rightarrow x \leq 2 \rightarrow \frac{f}{2} + 9 \leq 2 \rightarrow f \leq -20$$

$$f(1) \rightarrow x \leq 1 \rightarrow \frac{f}{2} + 9 \leq 1 \rightarrow f \leq -16 \rightarrow a - \sqrt{a^2 + f} \leq a - 3 \leq 4 \rightarrow$$

$$f(x-1) \leq a(x-1)^2 - b(x-1) + 2 = \frac{a(x^2 - 2x + 1) - b(x-1) + 2}{ax^2 - 2ax + a - bx + b + 2}$$

$$f(x-1) - f(x) \leq (ax^2 - 2ax + a - bx + b + 2) - (ax^2 - bx + 2)$$

$$\leq -2ax + a + b = 9x + 2 \xrightarrow{\text{ضرب ۹ با ۹}} -18x \leq 9 \quad -18x + b \leq 2$$

$$\rightarrow a - b \leq -18 - 2 \leq -20$$

$$a \leq -18$$

$$b \leq 2$$

$$\frac{r \times (r^r - 9 + 1) + \frac{1}{(-1)^r + r + 1}}{(-1)^r} = \frac{r + \omega}{1} = \frac{V}{1} = V$$

$$f(r) = r^r - 9 + 1 = -1 \rightarrow f(-1) = 1 + r + 1 = \omega$$

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$$\frac{r \left(\frac{r^r}{r^r + 1} \right) - r \left(\frac{r}{-1 + r} \right)}{(r \times r) + 1} = \frac{r^9 - 1}{V} = \frac{r1}{V}$$

Ⓟ ✓

$$\frac{f(1) - f(r)}{9 - r} = \frac{9 - 9}{K} = \boxed{9}$$

Ⓟ

$$\begin{aligned} & \xrightarrow{f} 1 \xrightarrow{f} 9 \rightarrow f(f(1)) = 9 \\ & \xrightarrow{r} 1 \xrightarrow{f} 9 \rightarrow f(f(r)) = 9 \\ & \xrightarrow{1} 1 \xrightarrow{f} 9 \rightarrow f(1) = 9 \end{aligned}$$

$$f(\sqrt{r} - r) = \frac{V - \sqrt{r} + f(\sqrt{r} - r) + 9}{V - \sqrt{r} + \frac{V - \sqrt{r}}{r} + \omega} = \frac{\Lambda}{K} = r$$

$$(\sqrt{r} - r)^r = r + r - r\sqrt{r} = V - r\sqrt{r}$$

$$f(r) = \frac{K + \Lambda + 9}{K + \Lambda + \omega} = \frac{r1}{1V}$$

Ⓟ ✓

$$f(\sqrt{q}) = (\sqrt{q})^r + \frac{1}{(\sqrt{q})^r} = |q| + \frac{1}{|q|} \xrightarrow{(-)^r} q^r + \frac{1}{q^r} + r$$

$$f(q) = q^r + \frac{1}{q^r}$$

Ⓟ ✓

$$(f(\sqrt{q}))^r - f(q) = q^r + \frac{1}{q^r} + r - q^r + \frac{1}{q^r} = \boxed{r}$$