

$$x \geq 0 \quad [-4, 5]$$

۱- برای آنکه نیرادیکال مثبت تریا مساوی صفر باشد باید $f(x)$ هم علامت باشد.

$$\begin{array}{ccccccc} -4 & -5 & 0 & 2 & 5 \\ \hline - & + & + & - & + \end{array}$$

$$D_f = [-5, 0] \cup [2, 5]$$

$$\frac{-x}{f(x)} \geq 0 \rightarrow \frac{x}{f(x)} \leq 0$$

$$\begin{array}{ccccccc} -4 & -3 & 0 & 2 & 5 \\ \hline - & + & - & - & + \end{array}$$

۲ حالت اول: $f(x) < 0$ و $x > 0$
حالت دوم: $f(x) > 0$ و $x < 0$

$$D_f = (-3, 2) - \{0\}$$

$$f(1) - 2f(1) = 1 - 4 + 4 \rightarrow f(1) = 1 \quad f(1) = -1$$

$$f(2) - 2(-2) = 4 - 3 + 4 \rightarrow f(2) = 4 - 3 + 4$$

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

$$f(1) = 2(1) + 3 = 5$$

$$f(f(1)) = f(5) = 5 - \sqrt{5+4} = 5 - 3 = 2$$

$$f(f(5)) = f(5) \rightarrow 2 \quad \text{پس} \rightarrow f(1) = 2(1) + 3 = 5$$

$$2 + 5 = 7$$

$$-2ax + a + b = 4x + 2$$

$$-2a = 4 \rightarrow a = -2 \quad + a + b = 2 \rightarrow -2 + b + 2 \rightarrow b = 0$$

$$a - b = -2 - (0) = -2$$

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

$$f(-1) = (-1)^r - r(-1) + 1 = 0$$

$$f(2) = 2^2 - 2 \rightarrow f(r) = 1$$

$$\frac{r+1}{1} = \boxed{r+1}$$

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$$f(r) = r(r) + 1 = 1r \rightarrow rf(r) = r(1r) = r^2$$

$$f(-r) = (-r)^r = r$$

$$f(r) = r(r) + 1 = r$$

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$$\frac{r^2 - r}{r} = \frac{r}{r} = \boxed{1}$$

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$$f(r) = 1 \rightarrow f(f(r)) = f(1) = r$$

$$f(r) = r \rightarrow f(f(r)) = f(r) = r$$

$$\frac{r-r}{r-r} = \frac{0}{0} = \boxed{0}$$

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$$x+r = \sqrt{r} \rightarrow (x+r)^r = r \rightarrow x^r r \leq x + r = r$$

$$x^r + r = -1 \quad f(\sqrt{r}-r) = \frac{-1+4}{-1+2} = \frac{3}{1} = 3$$

$$f(r) \rightarrow \frac{(r)^r + r(r) + 4}{(r)^r + f(r) + 2} = \frac{r + 1 + 4}{r + 1 + 2} = \frac{r+5}{r+3}$$

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

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

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

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