

یعنی باید $f(x)$ و x هم علامت باشند $\rightarrow x f(x) \geq 0 \rightarrow y = \sqrt{x f(x)}$

$$\begin{array}{c} -\infty \quad - \quad 0+2 \quad + \quad \infty \\ + \quad | \quad - \quad | \quad - \quad | \quad + \quad | \quad + \\ \hline \end{array}$$

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

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یعنی باید $f(x)$ و $\frac{-x}{f(x)}$ هم علامت باشند $\rightarrow \frac{-x}{f(x)} \geq 0, f(x) \neq 0$

$$\begin{array}{c} + \quad - \quad 3 \quad + \quad 0 \quad - \quad 2 \quad - \quad \infty \\ - \quad | \quad + \quad | \quad + \quad | \quad - \quad | \quad + \quad | \quad + \\ \hline \end{array}$$

$$D_f = (-3, 0) \cup (0, 2) \xrightarrow{\text{اعداد صحیح}} (-2, -1, 1) \rightarrow \boxed{[-3]}$$

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$$f(x) - 2f(2) = x^2 - 3x + 4 \xrightarrow{x=2} f(2) - 2f(2) = 2^2 - 3 \cdot 2 + 4 = 0$$

$$\rightarrow -f(2) = 2 \rightarrow f(2) = -2$$

$$\xrightarrow{x=-2} f(-2) - 2(-2) = (-2)^2 - 3(-2) + 4 = 14$$

$$\rightarrow f(-2) + 4 = 14 \rightarrow \boxed{f(-2) = 10}$$

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$$f(x) = \begin{cases} x - \sqrt{x+3} & x > 3 \\ 2x+3 & x \leq 3 \end{cases}$$

$$f(5) = 5 - \sqrt{5+3} = 2 \rightarrow f(2) = 2 \cdot 2 + 3 = 7$$

$$f(1) = 2 \cdot 1 + 3 = 5 \rightarrow f(5) = 2$$

$$5+2 = \boxed{7}$$

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$$a(x-1)^2 - b(x-1) + 2 - (ax^2 - bx + 2) = 4x + 2$$

$$\rightarrow a(x^2 - 2x + 1) - bx + b + 2 - ax^2 + bx - 2 = 4x + 2$$

$$\rightarrow \cancel{ax^2} - \cancel{2ax} + \boxed{a+b} - \cancel{ax} = \boxed{4x+2}$$

$$\begin{cases} -2ax = 4x \rightarrow a = -2 \\ a+b = 2 \rightarrow -2+b = 2 \rightarrow b = 4 \end{cases} \rightarrow a-b = -2-4 = \boxed{-6}$$

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$$\frac{r(r^2 - r^2 \alpha + 1) + ((-1)^r - r^2(-1) + 1)}{(r^2 - r^2(r+1))^r} = \frac{r^2 \alpha + 1 + (-1)^r + 1}{(r^2 - r^2(r+1))^r} = \frac{r}{1} = \textcircled{V}$$

f

$$\frac{r(\frac{1}{r^2}r + 1) - r(-1)^r}{(r^2 r + 1)} = \frac{r^2 - 1}{r} = \textcircled{\frac{r-1}{r}}$$

y

$$r \rightarrow 9 / r \rightarrow 2 / r \rightarrow 1 / 1 \rightarrow 9$$

$$\frac{f(f(r)) - f(f(r))}{f(1) - r} = \frac{0}{r} = \boxed{0}$$

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$$f(x) = \frac{(x+r)^r + \omega}{(x+r)^r + 1} \quad // \quad x = \sqrt{r} - r \rightarrow x+r = \sqrt{r}$$

$$\rightarrow \frac{r + \omega}{r + 1} = \frac{1}{r} = r \rightsquigarrow \frac{19 + \omega}{19 + 1} = \textcircled{\frac{r-1}{r}}$$

q

$$\left(\left(\sqrt{x} \right)^r + \frac{1}{(\sqrt{x})^r} \right)^r - \left(x^r + \frac{1}{x^r} \right) = x^r + r + \frac{1}{x^r} - x^r - \frac{1}{x^r} = \textcircled{r}$$

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