

باید $f(x)$ را هم علامت
کنیم و حاصل می‌آوریم
صفر بگیریم

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

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$$y = \sqrt{\frac{-x}{f(x)}}$$

$$\frac{-x}{f(x)} \geq 0 \Rightarrow f(x) \neq 0$$

$$x < 0 \Rightarrow -x > 0$$

$$x > 0 \Rightarrow -x < 0$$

$$[0, 5) \times \text{منفی}$$

$$(-3, 0) \checkmark \text{مثبت}$$

$$(0, 2) \checkmark \text{مثبت}$$

$$(2, 5) \times \text{منفی}$$

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$$D_y = [-3, 0] \cup (0, 2)$$

شامل ۳ عدد صحیح

$$f(x) - 2f(x) = x^2 - 3x + 4 \Rightarrow \frac{f(x)}{-f(x)} = \frac{x^2 - 4 + 8}{x} \Rightarrow \underline{f(x) = -x}$$

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$$f(-x) - 2(-x) = x^2 + 4 + 8 = f(-x) + 8 = 12 \Rightarrow \underline{f(-x) = 10}$$

$$f(f(5)) + f(f(1)) ?$$

$$f(x) = \begin{cases} x - \sqrt{x+4} & x > 3 \\ x + 3 & x \leq 3 \end{cases}$$

$$\textcircled{1} f(1) = 1 + 3 = 4 \Rightarrow f(4) = 5$$

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

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$$\textcircled{3} f(f(5)) + f(f(1)) = f(2) + f(4) = 5 + 5 = 10$$

$$f(x) = ax^2 - bx + r$$

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

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

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

$$-2a = 4 \Rightarrow a = -2$$

$$a + b = r \Rightarrow -2 + b = r \Rightarrow b = r + 2$$

$$a - b = -2 - (r + 2) = -r - 4$$

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آلر $F(n) = n^2 \cdot r_{n+1}$ جاشد حاصل عبارت زیر را بیابید.

$$\frac{rF(r) + F(-1)}{F^r(r)} = \frac{r(9-r+1) + 1 + r^2 + 1}{(8-r+1)^r} = \frac{r+9}{r} = V$$

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مشتق اول $\rightarrow$ مشتق دوم

$$\frac{rF(8) - rF(-r)}{F(r)} = \frac{r(12+1) - r(8)}{V} = \frac{r9-1}{V} = \frac{r1}{V}$$

مشتق اول

$$F(n) = \begin{cases} r_{n+1} & n \geq r \\ n^r & n < r \end{cases}$$

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$F(11)$

$$\frac{F(F(8)) - F(F(r))}{F(11)-r} \Rightarrow \frac{F(11) - F(r)}{4-r} = \frac{4-4}{4-r} = \frac{0}{8} = 0$$

$$F = \{(r, r), (r, r), (8, 1), (1, 4)\}$$

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$$F(F(\sqrt{r} - r)) = ?$$

$$\textcircled{2} \rightarrow \frac{(\sqrt{r} - r + r)^r + 9}{(\sqrt{r} - r + r)^r + 1} = \frac{1}{8} = r$$

$$F(n) = \frac{n^r + 8n + 9}{n^r + 8n + 8}$$

$$\textcircled{1} \rightarrow \frac{(n+r)^r + 9}{(n+r)^r + 1}$$

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$\frac{r}{r+8}$

$$\textcircled{3} F(r) = \frac{r+1+9}{8+1+8} = \frac{r1}{14}$$

$$(F(\sqrt{n}))^r - F(n) = ?$$

$$F(n) = n^r + \frac{1}{2r}$$

$$F(\sqrt{n}) = (\sqrt{n})^r + \left(\frac{1}{\sqrt{n}}\right)^r = n + \frac{1}{n}$$

$$\Rightarrow \left(n^r + \frac{1}{n^r} + r\right) - \left(n^r + \frac{1}{n^r}\right) = r$$

$$F(\sqrt{n})^r = \left(n + \frac{1}{n}\right)^r = \frac{n^r + r}{n^r + r}$$

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