

14, 17, 18

باید $F(x)$ را هم علامت
کنند و حاصل می‌آید
صفر باشد

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

2 ✓

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

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

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

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

منفی $(-5, -3) \times$

مثبت $(-3, 0) \checkmark$

مثبت $(0, 2) \checkmark$

منفی $(2, 5) \times$

$$F(x) = \begin{cases} x^2 & x \leq 0 \\ x^2 + 2 & x > 0 \end{cases}$$



1, 17, 18 ✓

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

شامل ۳ عدد صحیح

$$F(x) - 2F(x) = x^2 - 2x^2 + 2 \Rightarrow F(x) - 2F(x) = \frac{x^2 - 2x^2 + 2}{x} \Rightarrow F(x) = -2$$

$$F(-2) - 2F(-2) = 4 + 2 = 6 \Rightarrow F(-2) + 2 = 6 \Rightarrow F(-2) = 4$$

2 ✓

$$F(F(5)) + F(F(1)) ?$$

$$F(x) = \begin{cases} x - \sqrt{x+4} & x \geq 3 \\ x + 3 & x < 3 \end{cases}$$

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

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

$$\textcircled{3} F(F(5)) + F(F(1)) = F(2) + F(4) = 5 + 4 = 9$$

2 ✓

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

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

2 ✓

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

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

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

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

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

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

$$\frac{rF(8) - rF(-r)}{F(r)} = \frac{r(17+1) - r(8)}{V} = \frac{r9-1}{V} = \frac{r1}{V}$$

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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$$\frac{r}{r+8} \textcircled{2} F(r) = \frac{r+1+9}{8+1+8} = \frac{r1}{14}$$

۲ ✓

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

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

۲ ✓

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

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

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

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