

|                                     |                                                                      |                                                   |
|-------------------------------------|----------------------------------------------------------------------|---------------------------------------------------|
| $x f(x) \geq 0$<br>$\checkmark$     | $[-a, 0) \rightarrow$<br>$x \leq 0$<br>$f(x) < 0$<br>$x f(x) \geq 0$ | $(0, a)$<br>$x > 0$<br>$f(x) < 0$<br>$x f(x) < 0$ |
| $[a, b]$<br>$x > 0$<br>$\checkmark$ | $D_f \supseteq [-a, 0) \cup [a, b]$<br>$f(x) > 0$<br>$x f(x) > 0$    |                                                   |

$$\begin{array}{|l|l|l|l|} \hline -n \geq 0 \rightarrow n \leq 0 & f(n) \neq 0 & (-r, -1) & -n > 0 \\ \hline & & & f(n) < 0 \\ \hline (-r, 0) & -n > 0 & (0, r) & -n < 0 \\ & f(n) > 0 & & f(n) < 0 \\ \hline \sqrt{\frac{-n}{f(n)}} \checkmark & & \sqrt{\frac{-n}{f(n)}} = \sqrt{\left\{ (r, \infty), -n < 0, f(n) > 0 \right\} \cup \left\{ (-r, 0), -n > 0, f(n) < 0 \right\}} & \times \\ \hline \end{array}$$

$$f(y) \rightarrow f(y) - y f(y) = \underbrace{y - y + y}_{y} \rightarrow -f(y) = y \rightarrow f(y) = -y$$

$$f(-y) \rightarrow f(-y) - y f(y) = \underbrace{y}_{-y} + \underbrace{y + y}_{1y} \rightarrow f(-y) + y = 1y$$

$$f(-y) = 1y$$

$$f(\omega) \rightarrow \omega - \underbrace{\sqrt{\omega + r}}_{\sqrt{9}=3} = r \rightarrow f(\underbrace{f(\omega)}_r) \rightarrow f(r) = v$$

$$f(n-1) = a(n-1)^r - b(n-1) + r = a(n^r - rn + 1) - bn + b + r$$

$$an^r - ran + a - bn + b + r \Rightarrow f(n-1) - f(n)$$

$$an^r - ran + a - bn + b + r - (an^r - bn + r) \Rightarrow -ran + a + b$$

$$-4a + a + b = 4 + 1$$

$$-4a + b = 5$$

$$a + b = 4$$

$$-r + b = r \rightarrow b = d$$

$$a - b = -1$$

$$F(3) = 9 - 9 + 1 = 1 \rightarrow F(1^3) = 1$$

$$\frac{1+9}{1} = 10$$

$$F(-1) = 1 + 1 + 1 = 3$$

$$F(2) = 4 - 4 + 1 = 1 \rightarrow F^2(2) = 1$$

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$$F(4) = 3(4) + 1 = 13 \rightarrow 3F(4) = 39$$

$$\frac{39-1}{4} = \frac{38}{4}$$

$$F(-2) = (-2)^2 = 4 \rightarrow -2F(-2) = -8$$

$$F(2) = 4$$

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$$F(4) = 1 \rightarrow F(F(4)) = F(1) = 4$$

$$\frac{4-4}{4-2} = \frac{0}{2} = 0$$

$$F(3) = 2 \rightarrow -F(F(3)) = -F(2) = -4$$

$$F(1) = 4$$

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$$F(\sqrt{3}-2) \rightarrow (\sqrt{3}-2)^2 + 4(\sqrt{3}-2) + 9 \Rightarrow 3 + 4 - 4\sqrt{3} + 4\sqrt{3} - 8 + 9 = 8$$

$$F(\sqrt{3}-2) \rightarrow (\sqrt{3}-2)^2 + 4(\sqrt{3}-2) + 9 \Rightarrow 3 + 4 - 4\sqrt{3} + 4\sqrt{3} - 8 + 9 = 8$$

$$\frac{8}{4} = 2 \rightarrow F(F(\sqrt{3}-2)) \rightarrow F(2) = \frac{4+8+9}{4+8+9} = \frac{21}{21} = 1$$

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$$F(\sqrt{n}) \Rightarrow (\sqrt{n})^2 + \frac{1}{(\sqrt{n})^2} = n + \frac{1}{n} \rightarrow \left(n + \frac{1}{n}\right)^2 = n^2 + \frac{1}{n^2} + 2$$

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

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