

۱۲، ۲۵

$$n f(n) \geq 0$$

$D_f = [-4, 5] \cup [2, \infty)$

برای آنکه نیرایکال مثبت تریا مساوی صفت باشد باید $f(n)$ هم صفت باشد پس:

$-4 \quad -\infty \quad 2 \quad \infty$
 $- \quad + \quad - \quad +$

$-4 \quad -\infty \quad 2 \quad \infty$
 $- \quad + \quad - \quad +$

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

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

حالت اول: $f(n) < 0$ و $g > 0$

حالت دوم: $f(n) > 0$ و $g < 0$

$-5 \quad -\infty \quad 0 \quad 2 \quad 5$
 $- \quad + \quad - \quad + \quad -$

$-5 \quad -\infty \quad 0 \quad 2 \quad 5$
 $- \quad + \quad - \quad + \quad -$

$f(n) - 1 f(r) = (n-1)(n-3)$

$f(r) - 2 f(r) = (r-1)(r-3)$

$f(r) = 1$

$f(-2) - 2 f(r) = (-2-1)(-2-3) \rightarrow f(-2) = 19$

$f(-2) - 1 = 18 \rightarrow f(-2) = 19$

$f(r) - 2 f(r) = 2 \rightarrow f(r) = -2 \rightarrow f(n) = 9r^2 - 3r$

$f(-2) = (-2)^2 - 3(-2) = 10$

$f(f(\infty)) + f(f(1))$

$1 \rightarrow -2 \times 1 + 3 = 1$

$2 \rightarrow -\infty - \sqrt{2 + \infty} = 2$

$3 \rightarrow 2 \times 2 + 3 = 7$

$7 + 2 = 9$

$f(n) = an^2 - bn + r$

$f(n-1) - f(n) = 4n + r$

$a(n-1)^2 - b(n-1) + r$

$a(n^2 + 1 - 2n) - bn + b + r$

$an^2 + a - 2an - bn + b + r - an^2 + bn - r$

$a - 2an + b = 4n + r$

$-2an + a + b = 4n + r$

$-2a = 4$

$a = -2$

$b = \infty$

$a - b = -\infty$

$\frac{r f(r) + f(-1)}{f'(r)} = \sqrt{}$ (✓) ✓	$r^r - (r \times r) + 1 = 1$ $-1^r - (r \times -1) + 1 = \omega$ $r^r - (r \times r) + 1 = -1$	6
$\frac{r f(\varepsilon) - r f(-r)}{f(r)} =$ $\frac{r \times 1^r - r \times \varepsilon}{\sqrt{}} = \frac{r1}{\sqrt{}}$ (✓) ✓	$r \times \varepsilon + 1 = 1^r$ $(-r)^r = \varepsilon$ $r \times r + 1 = \sqrt{}$	7
$\frac{f(f(\varepsilon)) - f(f(r))}{f(1) - r} = 0$ (✓) $r \xrightarrow{f} 1 \xrightarrow{f} 4 \rightarrow f(f(\varepsilon)) = 4$ $r \xrightarrow{f} r \xrightarrow{f} 4 \rightarrow f(f(r)) = 4$ $1 \xrightarrow{f} 4 \rightarrow f(1) = 4$		8
$f(f(\sqrt{r}-r))$ (✓) ✓	$\frac{(\sqrt{r}-r)^r + r(\sqrt{r}-r) + 4}{(\sqrt{r}-r)^r + \varepsilon(\sqrt{r}-r) + \omega} = \frac{\Lambda}{\Sigma} = r \rightarrow f(r)$ $\frac{r^r + \varepsilon \times r + 4}{r^r + \varepsilon \times r + \omega} = \frac{r1}{1\sqrt{}}$	9
$(f(\sqrt{n}))^r - f(n) =$ $\sqrt{n}^r + \frac{1}{\sqrt{n}^r} \Rightarrow (n + \frac{1}{n})^r \rightarrow n^r + \frac{1}{n^r} + r$ $n^r + \frac{1}{n^r} + r - n^r - \frac{1}{n^r} = r$ (✓) ✓		10