

$$x(f) x \geq 0 \quad \frac{-5 - 0 + 2 + 5}{+ \phi - \phi - \phi + \phi} \Rightarrow D_f = [-5, 0] \cup [2, 5]$$

✓

$$\frac{-x}{f(x)} \geq 0, \quad (f) x \neq 0 \quad \frac{-3 + 0 - 2 - 5}{\phi + \phi - \phi + \phi} \quad D_f = (-3, 0) \cup (0, 2)$$

سمت چپ $\Rightarrow [-2, -1, 1]$

✓

$$\text{if } x=2 \Rightarrow f(x) - 2(f(x)) = 4 - 4 + 4 \Rightarrow -f(x) = 2 \Rightarrow f(x) = -2$$

$$f(-2) - 2f(x) = (-2)^2 - 2(-2) + 4 \Rightarrow f(-2) + 4 = 14 \Rightarrow f(-2) = 10$$

✓

$$f(5) = 5 - \sqrt{9} = 2 \Rightarrow f(f(5)) = f(2)$$

$$f(2) = 2(2) + 3 = 7$$

$$f(1) = 2(1) + 3 = 5 \Rightarrow f(f(1)) = f(5) = 2 \Rightarrow 5 + 2 = 7$$

✓

$$f(n-1) = f(n) - 4n + 2$$

$$f(n-1) = a(n-1)^2 - b(n-1) + 2 = an^2 - 4an + 4a - bn + b + 2 \Rightarrow f(n-1) = f(n) - 4an + a + b$$

$$-4an + a + b = 4n + 2 \Rightarrow -4a = 4 \Rightarrow a = -1 \quad \begin{cases} a+b=2 \\ -1+b=2 \end{cases} \Rightarrow b=3$$

$$\Rightarrow a-b = -1-3 = -4$$

✓

$\left. \begin{aligned} f(r) &= r^r - r(r) + 1 = 1 \\ f(-1) &= (-1)^r - r(-1) + 1 = 5 \\ f'(r) &= r^r \cdot r(r) + 1 = 1 \Rightarrow f'(r) = 1 \end{aligned} \right\} \Rightarrow \frac{r(1) + 5}{1} = \boxed{6}$	9
$\begin{aligned} f(r) &= r(r) + 1 = 1r \\ f(-r) &= (-r)^r = r^r \\ f(r) &= r(r) + 1 = 1 \end{aligned} \quad \frac{r(1r) - r(r)}{1} = \frac{r}{1}$	r
$\left. \begin{aligned} f(r) &= 1 \Rightarrow f(1) = 4 \\ f(r) &= r \Rightarrow f(r) = 4 \\ f(1) - r &= 4 - r = r \end{aligned} \right\} \Rightarrow \frac{4-4}{r} = 0$	1
$\begin{aligned} f(\sqrt{r}-r) &= (\sqrt{r}-r)^r + r(\sqrt{r}-r) + 9 \\ &\quad \frac{(\sqrt{r}-r)^r + r(\sqrt{r}-r) + 5}{(\sqrt{r}-r)^r + r(\sqrt{r}-r) + 5} \Rightarrow (\sqrt{r}-r)^r + r(\sqrt{r}-r) = -1 \Rightarrow f(\sqrt{r}-r) \cdot \frac{-1+9}{-1+5} \cdot \frac{1}{r} = r \end{aligned}$	9
$f(r) = f(f(\sqrt{r}-r)) \Rightarrow f(r) = \frac{r^r + r(r) + 9}{r^r + r(r) + 5} = \frac{r}{1r}$	
$(f(\sqrt{n})) = (\sqrt{n})^r + \frac{1}{(\sqrt{n})^r} = n + \frac{1}{n} \Rightarrow (f(\sqrt{n}))^r = n^r + r + \frac{1}{n^r}$	
$f(n) = n^r + \frac{1}{n^r} \Rightarrow n^r + r + \frac{1}{n^r} - n^r - \frac{1}{n^r} = \boxed{r}$	1.