

$$f(n^r + n) = 2n^r - 1$$

$$f(r) + f(10) = ?$$

$$n=1 \rightarrow f(1+1) = f(r) = 2(1) - 1 = 1$$

$$n=2 \rightarrow f(1+2) = f(10) = 2(r) - 1 = V$$

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$$f(r) + f(10) = V + 1 = \Lambda$$

$$f(n) = (n^r - 9n^r + 12n - 1) + 1 \rightarrow (n-r)^r + 1 \quad f(\sqrt[3]{r}+r) = (\sqrt[3]{r}+r-r)^r + 1 = 10$$

$$g(n) = (n^r + 9n^r + 12n + 2V) - 2V \rightarrow (n+r)^r - 2V \quad g(\sqrt[3]{r}-r) = (\sqrt[3]{r}-r+r)^r - 2V = -2$$

$$\frac{g(\sqrt[3]{r}-r)}{f(\sqrt[3]{r}+r)} = ? \quad \frac{-20}{20} = -1$$

V

$$f(n) = \sqrt{n-r} + \sqrt{n-r} + r \rightarrow \sqrt{(\sqrt{n-r}+r)^2} = \sqrt{n-r} + r \quad (= |n \geq r)$$

$$g(n) = \sqrt{n-r} - \sqrt{n-r} + r \rightarrow \sqrt{(\sqrt{n-r}-r)^2} = |\sqrt{n-r} - r|$$

$$f(n) + g(n) = a + b\sqrt{n+c}$$

$$\sqrt{n-r} + r + \sqrt{n-r} - r = 2\sqrt{n-r} \rightarrow \frac{0+1}{-r} = -\frac{1}{r}$$

$a=0$
 $b=2$
 $c=-r$

Λ

$$f(n) = \frac{n+r}{n^r - rn + r}$$

$$g(n) = \{(r,1), (1,0), (r,0), (0,r)\}$$

$$\frac{g}{f} = ?$$

$$\frac{g}{f} \Rightarrow \{(r, \frac{r}{1}), (0, r)\}$$

$$f(n) = \frac{n+r}{(n-r)(n-1)}$$

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$$D_f = R - \{r, 1\} \quad D_g = \{r, 1, r, 0\} \quad D_f \cap D_g = \{r, 0\}$$

$$f(n) = \{(1,r), (r,-1), (r,r), (-1,r)\}$$

$$g(n) = \{(-r,r), (1,-1), (r,r), (-1,0)\}$$

$$\{(1,r)(-1,r)(r,-1)(-r,-1)(r,r)(-r,r)\}$$

$$الف) f(rn) \rightarrow \{(\frac{r}{r}, r), (\frac{r}{r}, -1), (r,r), (-1,r)\}$$

$$rn=1 \rightarrow n=\frac{1}{r}$$

$$rn=r \rightarrow n=1$$

$$rn=r \rightarrow n=1$$

$$rn=-1 \rightarrow n=-\frac{1}{r}$$

$$ج) 2g^r(n) + 1$$

$$\{(-r,1), (1,r), (r,r), (-1,1)\}$$

$$ب) f(n^r)$$

$$n^r=1 \rightarrow n=\pm 1$$

$$n^r=r \rightarrow n=\pm \sqrt[r]{r}$$

$$n^r=-1 \rightarrow n=\pm \sqrt[r]{-1}$$

$$\frac{r}{g} = \{(1, \frac{r}{-1}), (r, \frac{r}{r}), (-1, \frac{r}{r})\}$$

$$D_f \cap D_g = \{1, r, -1\}$$

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(تکلیف شماره ۵)

< فاصله مکانی >

(بازدهی رفته B)

$$f(x) = \left(\frac{1}{r}\right)^{n-r} - 1 = r^{r-n} - 1$$

$$f(n+1) = r^{r-n-1} - 1 < r^{1-n} - 1$$

$$y = \sqrt{x^r f(n+1)}$$

$$x^r (r^{1-n} - 1) \geq 0$$

$$D_f = ?$$

x^r	-	+	+	+
$r^{1-n} - 1$	+	+	+	-
	-	+	+	-

$$0 \leq x \leq 1$$

$$D_f = [0, 1]$$

$$f(x) = \sqrt{x + |x+2|}$$

$$f(-x) = \sqrt{-x + |-x+2|}$$

$$f(-x) \text{ مساوی } = ?$$

$$\frac{-x+2}{x \leq 2} \quad \begin{cases} -x+2 \geq 0 \\ 2 \geq x \\ 1 \geq x \end{cases}$$

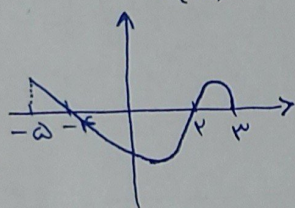
$$\begin{cases} -x+2 \geq 0 \\ 2 \geq x \\ 1 \geq x \end{cases}$$

$$x \leq 1$$

$$D_f = (-\infty, 1]$$

$$y = \sqrt{\frac{x-1}{f(x)}}$$

$$D_y = ?$$



	-1	-f	1	2	3
$f(x)$	+	+	-	-	+
$x-1$	-	-	-	+	+
	-	-	+	+	+

$$D_f = (-f, 1] \cup (2, 3)$$

$$y_1 = \frac{1}{9n^r - 5n^r - f_{n-r}}$$

$$\frac{(9n^r - 5n^r + 1) - n^r - f_{n-r}}{(n^r - 1)^r - (n+2)^r}$$

$$r = -1 \leq y_1, y_2 \text{ مساوی}$$

$$y_2 = \frac{1}{n^r + an + b}$$

$$(n^r - 1)^r - (n+2)^r \neq 0 \rightarrow$$

$$\begin{cases} n^r - 1 = n+2 \\ n^r - n - 3 = 0 = n^r + an + b \end{cases}$$

$$\sqrt{-(a+b)} = ?$$

$$\sqrt{-(a+b)} = \sqrt{f} = r$$

$$\begin{cases} a = -1 \\ b = -3 \end{cases}$$

$$f(x) = x^r + n$$

$$\sqrt{\frac{x^r + n}{x^r} - \frac{x^r}{x^r} - \frac{n}{x^r}} \rightarrow$$

$$y = \sqrt{f(x) - f\left(\frac{r}{n}\right)}$$

$$x^r - \left(\frac{r}{n}\right)^r + n - \frac{r}{n} = \left(x - \frac{r}{n}\right) \left(x^r + \left(\frac{r}{n}\right)^r + r\right) + \left(x - \frac{r}{n}\right) \geq 0$$

$$\text{مساوی} = ?$$

$$D_f = [-r, 0) \cup (r, +\infty)$$

$$x - \frac{r}{n} \geq 0$$

	-r	0	r
	-	+	+
	-	+	+