

نام و نام خانوادگی .. (درج ذیل پر لکھیں) پاسخانہ تشریحی تکلیف شماره کلاس اسم B

$y = f(x)$
 $y = \sqrt{x f(x)} \rightarrow D_f = ?$

$x f(x) \geq 0$ (باید علامت باشد زیرا x و $f(x)$ با هم علامت یکسان باشند)
 $\rightarrow \begin{cases} \text{ناقص 1: } [2, 5] \\ \text{ناقص 3: } [-5, 0] \end{cases}$
 $D_f = [-5, 0] \cup [2, 5]$

$f(x) \neq 0 \rightarrow \begin{cases} x \neq 5 \\ x \neq 2 \\ x \neq 0 \\ x \neq -2 \end{cases}$

$y = \sqrt{\frac{-x}{f(x)}}$ تابع
 $\rightarrow$ مخرج جذر و صفر می شود؟
 $\xrightarrow{\text{علامت}} \frac{-3}{x} + \frac{0}{x} + \frac{2}{x} - \frac{5}{x} \rightarrow D_f = (-3, 0) \cup (0, 2)$
 له مخرج 3، 2، 1، 0، 5

$f(x) - 2f(x) = 4 - 4 + 4 = 2 \rightarrow f(x) = -2 \rightarrow f(x) = x^2 - 3x \rightarrow f(-2) = 4 + 4 = 1$
 $f(-2) = 1 \leftarrow f(x) - 2f(x) = x^2 - 3x + 4$

$f(x) = \begin{cases} x - \sqrt{x-4} & x \geq 4 \\ 2x+3 & x < 4 \end{cases} \rightarrow f(f(5)) + f(f(1)) = ? \rightarrow f(2) + f(5) = 7 + 2 = 9$

$f(5) = 2$
 $f(1) = 5$
 $f(2) = 7$

$f(x) = ax^2 - bx + 2 \rightarrow f(x-1) - f(x) = 4x+2 \rightarrow a-b = ?$

if $x=1 \rightarrow f(1) = a-b+2$

if $x=0 \rightarrow f(0) = 2$

$\Rightarrow f(0) - f(1) = 1 \rightarrow 2 - (a-b+2) = 1$
 $2 - a + b - 2 = 1$
 $-a + b = 1 \rightarrow a - b = -1$

$-a + b = 1 \rightarrow a - b = -1$

$f(x) = x^r \cdot r_{n+1} \rightarrow \frac{r f(r) + f(r-1)}{f^r(r)} = \frac{r+d}{(-1)^r} = V$ $f(r) = 1$ $f(r-1) = 0$ $f(r) = -1$	6
$f(x) = \begin{cases} x_{n+1} & n \geq r \\ x^r & n < r \end{cases} \rightarrow \frac{r f(r) - r f(r-1)}{f(r)} = ? \rightarrow \frac{r \cdot 1 - r \cdot 0}{V} = \frac{r}{V}$	7
$f = \{(1, 4), (2, 2), (3, 1), (4, 0)\}$ $\frac{f(f(4)) - f(f(3))}{f(4) - 2} = ? \rightarrow \frac{f(1) - f(2)}{4 - 2} = \frac{4 - 2}{2} = 1$	8
$f(n) = \frac{n^r + r_{n+1} + 9}{n^r + r_{n+1} + 0} \rightarrow f(f(\sqrt{r}-1)) = ?$ $f(\sqrt{r}-1) = \frac{(\sqrt{r}-1)^r + r(\sqrt{r}-1) + 9}{(\sqrt{r}-1)^r + r(\sqrt{r}-1) + 0} = \frac{r+r - r\sqrt{r} + r\sqrt{r} - 1 + 9}{r+r - r\sqrt{r} + r\sqrt{r} - 1 + 0} = \frac{8}{r} = 2$ $f(f(\sqrt{r}-1)) = f(2) = \frac{2^r + 1 + 9}{2^r + 1 + 0} = \frac{r+1}{2}$	9
$f(n) = n^r + \frac{1}{n^r} \rightarrow (f(\sqrt{n}))^r - f(n) = ?$ $f(\sqrt{n}) = n + \frac{1}{n} \rightarrow (n + \frac{1}{n})^r - n^r - \frac{1}{n^r} = n^r + \frac{1}{n^r} + r - n^r - \frac{1}{n^r} = r$	10