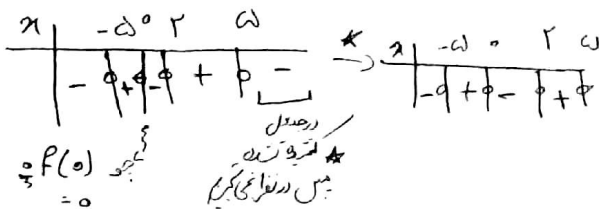
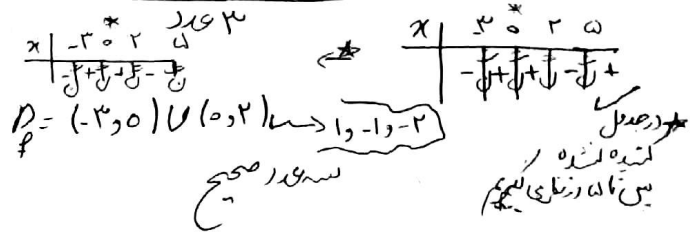


$$x f(x) \geq 0 \rightarrow D_f = [-\frac{5}{2}, 0] \cup [2, 5]$$



بازه به شکل $(-\infty, -\frac{5}{2})$ و $(0, 2)$ و $(2, 5)$ و $(5, \infty)$ می‌شکند. $\frac{-x}{f(x)} \geq 0$ $f(x) \neq 0$ $\frac{-x}{f(x)} \geq 0$



$$f(-2) - 2f(2) = 4 + 4 + 4 = 12 \Rightarrow f(-2) + 4 = 12$$

$$f(-2) = 10$$

$$f(0) - 2f(2) = 0 - 0 + 4 = 4 \Rightarrow -2f(2) = 4$$

$$f(x) - 2f(2) = x^2 - 2x + 4$$

$$f(5) \rightarrow 5 - \sqrt{5+4} = 2 \quad f(2) = 2(2) + 3 = 7$$

$$f(1) \rightarrow 2(1) + 3 = 5 \quad f(5) = 5 - \sqrt{5+4} = 2$$

$$f(f(5)) = 7 \rightarrow 7 + 2 = 9$$

$$f(f(1)) = 2 \rightarrow$$

$$x=0 \rightarrow f(-1) - f(0) = a + b + 2 - 2 = 4 \rightarrow a + b = 4$$

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

$$-4 - 5 = -9$$

$$2b = 10 \rightarrow b = 5, a = -3$$

$r f(r) = r(9 - 9 + 1) = r \quad f(-1) = 1 + r + 1 = 2 \quad f^r(r) = (r - 9 + 1)^r = 1$ $\frac{r+d}{1} = \sqrt{r}$	6
$r f(r) = r(1r + 1) = 1r^2 r = r^3 \quad r f(-r) = r(r) = 1 \quad f(r) = 9 + 1 = 10$ $\frac{r^3 - 1}{r} = \frac{r^2}{r}$	7
$f(r) = 1 \rightarrow f(1) = 9 = f(f(r)) \quad f(r) = r \quad f(r) = 9 = f(f(r))$ $f(1) = 9$ $\frac{9-9}{9-1} = 0$	8
$f(\sqrt{r}-r) \rightsquigarrow \frac{(\sqrt{r}-r)^r + r(\sqrt{r}-r) + 9}{(\sqrt{r}-r)^r + r(\sqrt{r}-r) + d} = \frac{r+r-r\sqrt{r}+r\sqrt{r}-1+9}{r+r-r\sqrt{r}+r\sqrt{r}-1+d} = \frac{r+1}{r-r} = \frac{1}{r} = \sqrt{r}$ $f(x) = \frac{(r)^r + r(r) + 9}{(r)^r + r(r) + d} = \frac{r+1+9}{r+1+d} = \frac{r+1}{1r}$	9
$f(\sqrt{x}) = x + \frac{1}{x} \rightarrow f(\sqrt{x})^r = x^r + r + \frac{1}{x^r}$ $f(x) = x^r + \frac{1}{x^r} \rightsquigarrow x^r + \frac{1}{x^r} + r - x^r - \frac{1}{x^r} = r$	10