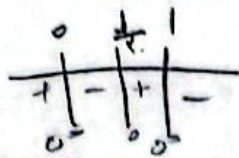
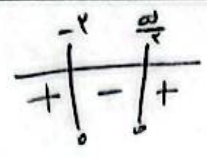


$\sqrt{\frac{-2x+1}{x(x-1)}} \rightarrow \frac{1}{x}$  $D_f = (-\infty, 0) \cup [\frac{1}{2}, 1)$	1
$x \notin \{1, -2, 0, -1\} \cup \{-\frac{\infty}{2}\} \Rightarrow D_f = \mathbb{R} - \{\pm 1, 0, -\frac{\infty}{2}\}$ $\frac{x}{x-1} \neq \frac{-1}{x+2} \Rightarrow x+2 \neq -x+1 \Rightarrow x \neq -\frac{1}{2} \quad x \neq -\frac{\infty}{2}$	
$((\frac{1}{x})^2 - 9)(x^2 - \frac{9}{x}) \geq 0$  $\Rightarrow \mathbb{R} - (-2, \frac{3}{2})$	2
$\sqrt{x-1} \quad (I)$ $\sqrt{x-1} \leq 2 \quad 0 \leq x-1 \leq 4 \Rightarrow 1 \leq x \leq 5$ $D_f = [1, 5]$	
$(I) \quad x^2 \geq 1 \Rightarrow x \geq 1 \vee x \leq -1$ $(I) \cap (II) = \mathbb{R} - [-1, 2]$ $(II) \quad (x+1)(x-2) > 0$ 	3
خب سعی کنیم max دار کی نامتنه که بین ۲ ریشه $\Leftarrow$ سعی به اذای ۲ باید صورت بگیرد $-f + 2 - 2a \leq 0$ $a = -\frac{1}{2}$ $\sqrt{-x^2 - \frac{1}{2}x + 2}$ $\frac{x}{2} - \frac{1}{2} \leq 1$ $p = -2 = -2 \times \frac{x}{2} \Rightarrow b = \frac{x}{2}$	4
$x \geq 1 \rightarrow g(x) = \sqrt{x(x-1)} \rightarrow D_g = [1, +\infty)$ $(I) \quad (II) \Rightarrow D_g = [-2, +\infty)$ $x < 1 \rightarrow g(x) = \sqrt{x+2} \rightarrow D_g = [-2, 1)$	5

$$\psi(a+1)(v) = \psi a - f + a$$

$$1 \cdot a + 1 \cdot f = f a - f$$

$$1 \cdot a = -1 \Rightarrow \underline{a = -1}$$

$$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + 2 \Rightarrow (\sqrt{2+\sqrt{2}} + \sqrt{2-\sqrt{2}} + 2) \cdot 2 = \underline{6 + 2\sqrt{2}}$$

$$\alpha = 2 + \sqrt{2}$$

$$\frac{1}{\alpha} = 2 - \sqrt{2}$$

$$\sqrt{2+\sqrt{2}} + \sqrt{2-\sqrt{2}} = \sqrt{2+\sqrt{2}+2-\sqrt{2}+2\sqrt{(2+\sqrt{2})(2-\sqrt{2})}} = \sqrt{4} = 2$$

$$\psi f(x) - \psi f(-x) = f x^2 - x$$

$$\psi f(-x) - \psi f(x) = f x^2 + x \xrightarrow{\times \frac{x}{x}} \psi f(x) - \frac{9}{x} f(x) = 4x^2 + 1/x$$

$$\psi f(x) - f(x) = 10x^2 + \frac{1}{x} = -\frac{9}{x} f(x) \Rightarrow \underline{f(x) = -x^2 - \frac{1}{10}x}$$

$$\psi f(0) = \psi m - 1 \Rightarrow \psi f(0) = 9m - 2 \Rightarrow f(0) = \frac{2m-1}{2} = \underline{\frac{2m-1}{2}}$$

$$\psi f(0) = 14 + 2m + \psi m - 1 = 2m + 12 = 9m - 2$$

$$14 = 7m \quad m = \frac{2}{1}$$

$$\psi f(-1) = \frac{2+12+2}{-1} = -14 \Rightarrow \underline{f(-1) = -9}$$