

$$\sqrt{(\sqrt{x-1}+1)^2} + \sqrt{(\sqrt{x-1}-1)^2} = \sqrt{x-1} + 1 + \sqrt{x-1} - 1$$

$$2\sqrt{x-1} \Rightarrow a + b\sqrt{x+c} \longrightarrow a = 0, b = 2, c = -1$$

$$a+b/c = \frac{0+2}{-1} = \frac{2}{-1} = -2$$

$$\frac{n+5}{(n-2)(n-1)} \quad f(2) = -1 \quad f(1) = 0 \quad f(0) = 0 \quad f(-1) = 5/2$$

$$\frac{g}{f} = \left((2, -1/2) \cup (0, 2) \right)$$

$$f(x) = \left\{ (1/4, 2), (5/4, -1), (2, 2), (-1/4, 2) \right\}$$

$$f(x^c) = \left\{ (1, 2), (-1, 2), (\sqrt{2}, -1), (-\sqrt{2}, -1), (2, 2), (-2, 2) \right\}$$

$$f^c(x) + 1 = \left\{ (-2, 1), (1, 2), (2, 1), (-1, 1) \right\}$$

$$f^c/g = (1, -1), (2, -1)$$

$$-2, 2, 2 \quad x = -2 \longrightarrow 6 \quad \longrightarrow \left\{ (-2, 2), (2, 0), (2, 0) \right\}$$

$$x = 2 \longrightarrow 5$$

$$x = 2 = 5$$

$$g(x) = [x] + [-x] \rightarrow x \in \mathbb{Z} \quad x \notin \mathbb{Z} \rightarrow -1$$

$$\left(\frac{f}{g+1} \right) x \neq f(x) \quad \sqrt{x-x} = 0 \rightarrow x^2 - 2x_{f^c}$$

$$\frac{c}{x-1} + 1 \neq \{0, 1, 2\}$$

$f(x) = \sqrt{2x^2 - x - 1}$ $h(x) = \frac{f(x)}{g(x)} = \{(1,0), (2, \frac{\sqrt{5}}{5}), (3,0)\}$ $-(x^2 - 2x + 1) \leq 0 \rightarrow -(x-1)(x-1) \leq 0$	$\frac{1}{x-1}$	6
$g(x) = x^2 - 2x + 1$ $\xrightarrow{\text{فاکتورساده}} y - 1 \leq (x-1)^2$ $\sqrt{y-1} \leq x-1 \rightarrow \sqrt{y-1} + 1 \leq x$ $R_y = \mathbb{R}$		7
$\rightarrow) \quad x^2 - 2x + 1 \leq 0 \quad (x-1)^2 \leq 0 \rightarrow [1, 1] \Rightarrow [-1, 1] \cup (0, \infty)$ $(-\infty, -1] \cup (0, \infty) \leftarrow \text{مقدارهای مثبت}$		
الف) $\frac{-b}{2a} = 1 \quad y \leq 4$ $R_f = [4, \infty)$	$\rightarrow) \quad \frac{-b}{2a} = 1 \quad y \leq 12$ $R_f = (-\infty, 12]$	8
ب) $\frac{-b}{2a} = 1 \quad y \leq 0$ $R_f = \sqrt{[1, \infty)} = [0, \infty)$	$\rightarrow) \quad \sqrt{-2x^2 + 4x} \quad \frac{-b}{2a} = 1$ $y \leq 9 \quad R_f = \sqrt{(-\infty, 9]} = [0, 9]$	
$f \geq \mathbb{R}$	$f \geq \mathbb{R}$	9
$z \leq \sqrt{R} \leq \mathbb{R}^+ \cup \{?\}$	$z \leq (R)^{\frac{1}{2}} = \text{مقادیر نامنفی}$ $\rightarrow \text{به قدر توان 2}$	
$f \leq \mathbb{R} - \{\frac{1}{1}\}$		10