

زیر مجموعه - باز و هم - A - کثیف ✓

$f(x) = \sqrt{x+1} \sqrt{x-1}$ $\frac{\sqrt{x-1} + t}{x+1}$ $\sqrt{t^2 + 1 + 1} = \sqrt{t^2 + 2}$
 $g(x) = \sqrt{x-1} \sqrt{x-1}$ $\frac{\sqrt{x-1} + t}{x+1}$ $\sqrt{t^2 - 1 + 1} = \sqrt{t^2}$

$f+g = \sqrt{x+1} \sqrt{x-1} + \sqrt{x-1} \sqrt{x-1} = \sqrt{x-1} (\sqrt{x+1} + \sqrt{x-1})$
 $\frac{a+b}{c} = \frac{1}{c}$

$f(x) = \frac{x+1}{x^2 - 1} = \frac{x+1}{(x-1)(x+1)}$
 $g(x) = \left\{ (1, 1), (0, 1), (0, 1) \right\}$
 $f(x) = \frac{x}{x^2 - 1}$

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

$f(x) = \left\{ (\frac{1}{2}, 1), (\frac{1}{2}, -1), (1, 1), (-\frac{1}{2}, 1) \right\}$

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

$g(x) = \left\{ (-1, 1), (1, 1), (1, 1), (-1, 1) \right\}$

$\frac{f}{g} = \left\{ (1, -1), (1, -1) \right\}$

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

$f(n) = \sqrt{n+1} \sqrt{n-1} \rightarrow n \geq 0, \sqrt{n+1} \sqrt{n-1} \geq 0$
 $g(n) = [n] + [-n] < n \notin \mathbb{Z}$

$D(\frac{f}{g+1}) = g+1 \rightarrow g \neq -1 \rightarrow \mathbb{R} \setminus \mathbb{Z}$
 $D = [0, 1] - \{x\}$
 $D = \{0, 1, 1\}$

$h(x) = \left\{ (1, 0), (1, 0), (1, 0) \right\}$

$R = \mathbb{R}$

$y^2 - 2xy + 1 = 0 \Rightarrow y = \frac{2x \pm \sqrt{4x^2 - 4}}{2} = x \pm \sqrt{x^2 - 1}$

$y = \frac{1}{x} \Rightarrow y^2 - 2xy + 1 = 0 \Rightarrow \frac{1}{x^2} - \frac{2}{x} + 1 = 0 \Rightarrow 1 - 2x + x^2 = 0 \Rightarrow (x-1)^2 = 0 \Rightarrow x = 1$

$R = (-\infty, 1] \cup (0, \infty)$

$R = [0, 1]$

$$R, R \text{ (الف)}$$

$$R, R \text{ (ب)}$$

$$4. \sqrt{x} \rightarrow R[0, +\infty)$$

$$5. \{x \mid x \leq x+1\} \rightarrow R[0, +\infty)$$

که همانی او را به صفر دارد

$$6. \frac{x-1}{x-2} \rightarrow R - \left\{ \frac{2}{1} \right\} = R - \{2\}$$

$$7. \frac{x+1}{x+1} \rightarrow R - \{2\}$$