

$$D_f = -x^2 + 2x - 1 \geq 0 \rightarrow D_f = [1, 1] \quad (2)$$

$$\frac{f}{g} = \left\{ (1, 0) (2, \sqrt{2}) (4, 0) \right\}$$

و) IR

$$\hookrightarrow g x^2 - 2g x + 1 \geq 0 \quad \frac{-1}{-1 \pm 1}$$

$$\rightarrow g y^2 - 1(-g) \geq 0 \rightarrow g y(y+1) \geq 0$$

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

$$\text{و) } \left. \begin{array}{l} \text{ext} \\ \text{min} \end{array} \right| \frac{f}{g} = \frac{1}{2} \quad R = [2, +\infty) \quad (1)$$

$$\hookrightarrow \frac{g}{f} = \frac{1}{2} \quad \left. \begin{array}{l} \text{ext} \\ \text{max} \end{array} \right| \frac{g}{f} = \frac{1}{2} \quad R = (-\infty, 1/2]$$

$$\text{ع) } \left. \begin{array}{l} \text{ext} \\ \text{max} \end{array} \right| \frac{g}{f} = \frac{1}{2} \quad R = (-\infty, 1/2]$$

$$R = \sqrt{[-1, +\infty)} = [0, +\infty)$$

$$\hookrightarrow \frac{g}{f} = \frac{1}{2} \quad R = [0, 2]$$

$$\text{و) } \sqrt{(IR)^2} \sim R = [0, +\infty) \quad (9)$$

$$\text{و) } \sqrt{(IR)^2} \sim R = [0, +\infty)$$

$$\text{و) } IR - \{2\}$$

$$\text{و) } IR - \{2\}$$

(10)

ادب اضافی

$$\sqrt{2x-1}\sqrt{x-1} + \sqrt{x+1}\sqrt{x+1} = f(x) + g(x) \quad (1)$$

$$\frac{2x-1}{2} \rightarrow x-1\sqrt{x-1} + x+1\sqrt{x+1} + 2\sqrt{x^2-1/2x+1/2}$$

$$\rightarrow 2x + 2(x-1) = 2x + 2x - 1/2$$

$$= 4x - 1/2 \rightarrow \sqrt{4x-1/2} = 2\sqrt{x-1/4}$$

$$\rightarrow 2\sqrt{x-1/4} = a + b\sqrt{x+c}$$

$$\rightarrow a=0, b=2, c=-1/4 \rightarrow \frac{a+b}{c} = \frac{-1}{2}$$

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

$$\text{و) } f(2x) = \left\{ (1/2, 2) (3/2, -1) (2, 2) (-1/2, 2) \right\} \quad (3)$$

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

$$\text{ع) } 2g^2(x+1) = \left\{ (-2, 1/2) (1, 3) (3, 2) (1, 1) \right\}$$

$$\hookrightarrow \left\{ (1, -1) (3, -1) \right\} \rightarrow g(-1) = \text{عقبات}$$

$$f+g = \left\{ (2, 0) (3, 0) (-2, 0) \right\} \quad (4)$$

$$\text{Sim} \left(\frac{f}{g+1} \right)(x) \begin{cases} D_f \cap D_g \\ \text{II } g \neq -1 \end{cases} \quad (5)$$

$$\text{I } D_g = IR \quad D_f = \sqrt{2x} - x \geq 0 \} x \neq -2$$

$$\rightarrow \sqrt{2x} \geq x \rightarrow 2x \geq x^2 \rightarrow x^2 - 2x \leq 0$$

$$D_f = [0, 2] - \{2\} \quad \frac{0}{+1-1+}$$

$$\text{II } g(x) \neq -1 \rightarrow x \neq \mathbb{Z}$$

$$\rightarrow D = [-2, 2] - \{2\} - \{IR - \mathbb{Z}\}$$