

پرنیای باقری / یاسمینہ تالیف ۷ / یازدهم دفتر A

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

1

$$g_x = \sqrt{(\sqrt{x-4} - 2)^2} = \sqrt{x-4} - 2$$

$$f_x + g_x = 2\sqrt{x-4} \Rightarrow a=0, b=2, c=(-4)$$

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

$$f_x = \frac{x+2}{(x-1)(x-3)} \rightarrow x \neq 1, 3$$

2

$$f_v = -4, f_0 = \frac{2}{3} \Rightarrow \frac{g}{f} = \left\{ \left(2, -\frac{1}{4} \right), (0, 4) \right\}$$

$$f_{1x} = \left\{ \left(\frac{1}{4}, 2 \right), \left(\frac{3}{4}, -1 \right), (2, 2), \left(-\frac{1}{4}, 4 \right) \right\}$$

3

$$f_{2x} = \left\{ (1, 2), (-1, 2), (\sqrt{3}, -1), (-\sqrt{3}, -1), (2, 2), (-2, 2) \right\}$$

$$2g_x + 1 = \left\{ (-2, 4), (1, 3), (3, 4), (-1, 1) \right\}$$

$$\Rightarrow \frac{2f}{g} = \left\{ (1, -4), (3, -1), (-1, 14) \right\}$$

$$\Rightarrow \left\{ (1, -4), (3, -1) \right\}$$

$$h = \tau^2, g = \{(1, \omega), (1, \omega), (-1, 4)\}$$

$$x \in \mathbb{Z} \sim g_x = -1 \sim g + 1 = 0 \sim \cup \cup$$

$$x \in \mathbb{Z} \sim g_x = 0 \sim g + 1 = 1 \checkmark$$

$$\sqrt{13}x \rightarrow x > 0$$

$$x \leq \sqrt{13}x \rightarrow 0 \leq x \leq 13 \left. \vphantom{\begin{matrix} \sqrt{13}x \\ x \leq \sqrt{13}x \end{matrix}} \right\} 0 \leq x \leq 13 - \{13\}$$

$$x - 1 \neq 0 \rightarrow x \neq 1$$

$$D \frac{d}{g+1} = \{0, 1, 13\}$$

$$\omega x - x^2 - 1 > 0 \rightarrow 1 \leq x \leq 13 : D \neq$$

$$\frac{f_x}{g_x} = \{(1, 0), (1, 1), (1, 0)\}$$

V

$$\begin{aligned}
 \text{الف) } y &= x^3 - 3x^2 + 3x - 1 + 1 \\
 &= (x-1)(x^2+x+1) - 3x(x-1) + 1 = \\
 &1 + (x-1)(x-1)^2 = (x-1)^3 + 1
 \end{aligned}$$

$$\begin{aligned}
 y &= (x-1)^3 + 1 \rightsquigarrow \sqrt[3]{y-1} + 1 = x \\
 R_f &= \mathbb{R}
 \end{aligned}$$

$$\text{ب) } y = \frac{1}{x^2 - 2x} \rightarrow yx^2 - 2xy - 1 = 0$$

$$\begin{aligned}
 x &= \frac{2y \pm \sqrt{4y^2 + 4y}}{2y} \\
 y &\neq 0 \quad \swarrow \quad \searrow \quad \begin{matrix} 4y^2 \\ 4y(y+1) > 0 \end{matrix} \\
 y &< -1, y > 0 \quad \leftarrow
 \end{aligned}$$

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

$$\text{ج) } y = x^2 - 4x + 1 \rightarrow \text{ext: } \begin{vmatrix} 2 \\ 4 \end{vmatrix}$$

min

$$R_f = [4, +\infty)$$

$$\text{د) } y = -x^2 + 4x + 3 \rightarrow \text{ext: } \begin{vmatrix} 2 \\ 4 \end{vmatrix}$$

max

$$R_f = (-\infty, 4]$$

$$\text{هـ) } y = \sqrt{x^2 - 4x - 3} \rightsquigarrow \text{ext: } \begin{vmatrix} 2 \\ -4 \end{vmatrix} \rightsquigarrow R_f = [0, +\infty)$$

min

$$\text{و) } y = \sqrt{4x - x^2} \rightsquigarrow \text{ext: } \begin{vmatrix} 2 \\ 4 \end{vmatrix} \rightsquigarrow R_f = [0, 4]$$

max

A

الف) $R_f = \mathbb{R}$

ب) $R_f = \mathbb{R}$

ج) $R_f = [0, +\infty)$

د) $R_f = [0, +\infty)$

الف) $y = \frac{x+1}{x-2} \rightarrow R_f = \mathbb{R} - \{2\}$

ب) $y = \frac{x+1}{x+1} \rightarrow R_f = \mathbb{R} - \{-1\}$