

کد صالح تحقیق، یازدهم مهر A - تکلیف ۲

$$\begin{aligned} f(n) &= 4 \\ g(n) &= 0 \rightarrow \xi = a + b\sqrt{A+cn} \end{aligned} \quad (1)$$

$$\rightarrow \xi = b\sqrt{A+cn} - b\sqrt{n+cn}$$

$$\begin{aligned} f(n_0) &= 5 \\ g(n_0) &= 2 \rightarrow n = a + b\sqrt{A+cn} \quad \text{یعنی } b(\sqrt{A+cn} - \sqrt{n+cn}) \end{aligned}$$

$$f = \{(2, -4), (0, \frac{5}{2})\} \rightarrow \underline{f = \{(2, -\frac{1}{2}), (0, 5)\}} \quad (2)$$

$$\text{الف)} f(n) = \{(1, 2), (\frac{5}{2}, -1), (2, 2), (-\frac{1}{2}, 5)\} \quad (3)$$

$$\text{ب)} = \{(1, 2), (5, -1), (2, 2), (-1, 2), (-5, -1), (-2, 2)\}$$

$$\text{ج)} = \{(-2, 15), (1, 3), (2, 9), (-1, 1)\}$$

$$\text{د)} = \{(1, -4), (3, -1)\}$$

$$2, 2, 0 - 3, 3, 3$$

$$= \{(2, 15), (3, 15), (-2, 2)\}$$

$$\text{پس } \frac{f}{g+1}(n) \rightarrow n = \mathbb{Z} - \{2\}, \quad (n) \neq 0 \rightarrow n \geq 0 \quad (4)$$

$$\hookrightarrow g+1 \neq 0 \rightarrow g \neq -1 \rightarrow \text{اعداد صحیح قبول نیست}$$

$$\hookrightarrow \sqrt{cn} \geq n \rightarrow cn^2 \geq n^2 \rightarrow$$

$$[9, +\infty) - \{2\}$$

$$\frac{1}{-p+p} \rightarrow [1, 2] \rightarrow h(n) = \{(1, 0), (2, 0), (2, \frac{\sqrt{2}}{2})\} \quad (3)$$

$$y = (n-1)^3 + 1 \rightarrow \sqrt[3]{y-1} = n-1 \quad (2) \text{ الف}$$

$$\hookrightarrow n = 1 + \sqrt[3]{y-1} \rightarrow \mathbb{R} \rightarrow \frac{y}{x} = \mathbb{R}$$

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

(ب)

$$\text{الف) } a > 0 \rightarrow R_f = [1, +\infty)$$

(A)

$$\text{ب) } y = a < 0 \rightarrow \max |x| \rightarrow R_f = (-\infty, 1]$$

$$\text{ج) } \min |x| \rightarrow [1, +\infty) \rightarrow R_f = [1, +\infty)$$

$$\text{د) } [-\infty, 1] \rightarrow [0, 1]$$

$$\text{الف) } R_f = \mathbb{R}$$

(9)

$$\text{ب) } R_f = \mathbb{R}$$

$$\text{ج) } R_f = \mathbb{R} \rightarrow R_f = \sqrt{1-R} = [0, +\infty)$$

$$\text{د) } R_f = [0, +\infty)$$

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

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