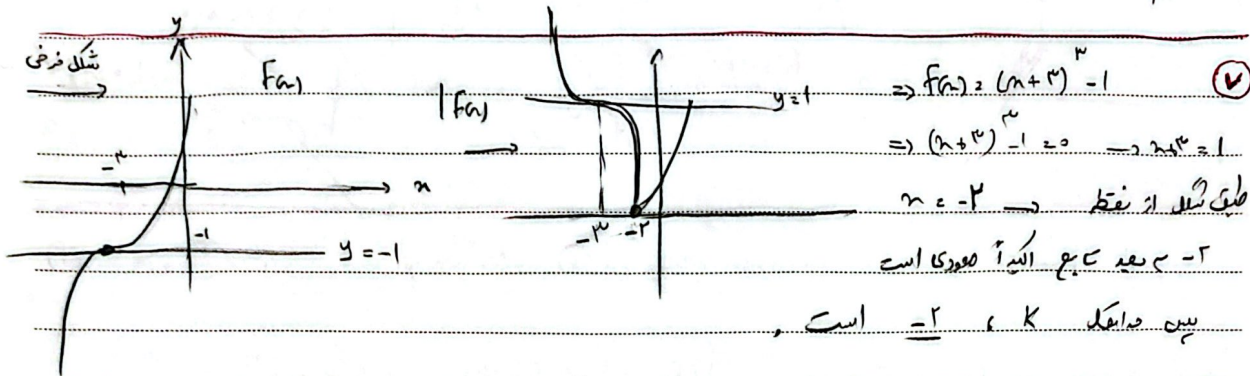


(4) $a < -2$ یا $a > 2 \rightarrow a^2 > 4 \rightarrow$ معکوس اکید است $(a^2 - 4) > 0$ اگر (الف)
 در $(-\infty, -2) \cup (2, +\infty)$

(ب) $a^2 = 4 \rightarrow a = \pm 2 \checkmark$



(1) دامنه که جمع 2- $f(n) = n + \sqrt{n}$ معکوس اکید است. بین دامنه و

$f(f(n)) \leq f(\sqrt{n}) \rightarrow f(n) \leq \sqrt{n} \rightarrow n + \sqrt{n} - 2 \leq \sqrt{n}$
 $n \leq 2$ (1) ، $f(\sqrt{n}) \rightarrow n > 0$ (2) $\xrightarrow{(1) \cdot (2)}$ $1 \leq n \leq 2 \rightarrow [1, 2] \checkmark$
 $n \in \mathbb{Z} \rightarrow f = \{1, 2\} \rightarrow$ صحیح و 2 و 1

(9) $f(n) = \sqrt[3]{9C_5^n - 1} - \sqrt[3]{-9C_5^n - 1} \rightarrow \sqrt[3]{1 + 9C_5^n} - \sqrt[3]{-1 + 9C_5^n}$
 $(0 \leq C_5^n \leq 1)$
 در $C_5^n = 1$ $\rightarrow \sqrt[3]{10} - \sqrt[3]{8} = \sqrt[3]{10} - 2$
 $C_5^n = 0 \rightarrow \sqrt[3]{1} - \sqrt[3]{-1} = 2$
 $\Rightarrow R_f = [-\frac{5}{2}, \frac{10}{2}] \rightarrow b - a = \frac{10}{2} - (-\frac{5}{2}) = \frac{15}{2} + \frac{5}{2} = \frac{20}{2} = 10$

$\Rightarrow R_g = [-\frac{5}{2}, \frac{10}{2}] \rightarrow b - a = \frac{10}{2} - (-\frac{5}{2}) = \frac{15}{2} + \frac{5}{2} = \frac{20}{2} = 10$

$Dg \circ f = \{x \in Df : f(x) \in Dg\} \rightarrow g(f(x)) \rightarrow Dg = R_f$

$\rightarrow f(n) = n - [n] - 2$ $\xrightarrow{\text{دامنه}}$ $0 \leq n - [n] < 1 \rightarrow -2 \leq f(n) < -1$
 $Dg \Rightarrow R_f = [-2, -1)$ $\xrightarrow{\text{دامنه}}$ $g(-2) = \frac{1}{-2} - 2 = -\frac{1}{2} - 2 = -\frac{5}{2}$ ، $g(-1) = \frac{1}{-1} - 2 = -1 - 2 = -3$
 $\rightarrow R_g = [-\frac{5}{2}, -3)$