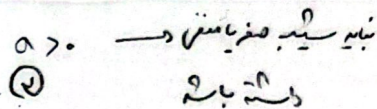
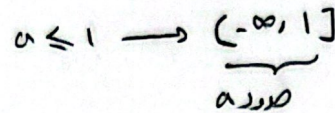


مؤید (۱) (۲)

$\longrightarrow (1, n) \rightarrow \boxed{123}$



$$\textcircled{1} \wedge \textcircled{2} \rightarrow -c \leq c \leq 3$$

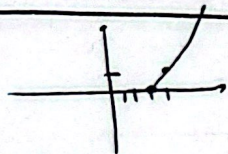
$$n = y^{r+1} \rightarrow y^{r+1} n = r \rightarrow y^{2\sqrt{n-r}} = f^{-1}(n)$$

$$n_s = 2$$
$$g_s = -2$$

$$\begin{aligned} \sqrt{\frac{y-1}{y+1}} &\rightarrow n = \frac{y+1}{y-1} \rightarrow ny - r_n = y+1 \\ &\quad ny - r_y = r_{n+1} \\ f^{-1}(n) &= y = \frac{r_{n+1}}{n-r} \leftarrow y(n-r) = r_{n+1} \end{aligned}$$

ب) $y = \frac{2n+4}{n-2} \rightarrow$ یہ ایک $x \rightarrow$ مربعی فائل ہے

الف)



$$\sqrt{x^2-1} \rightarrow n = \sqrt{y-1} \rightarrow y-1 = n^2 \rightarrow y = n^2+1 = f^{-1}(n)$$

ب) $\sqrt{x^2-1} \rightarrow x = (\sqrt{y-1}+1)^2 - 1 \rightarrow (\sqrt{y-1})^2 = n+1$

$$\sqrt{y-1} = \sqrt{n+1}$$

$$f^{-1}(n) = \sqrt{n+1} + 1$$

$$x = (\sqrt{y-1})^2 - 1$$

$$y = n + \sqrt{n} \rightarrow (\sqrt{n} + \frac{1}{r})^r - \frac{1}{r} \quad n = (\sqrt[n]{y} + \frac{1}{r})^r - \frac{1}{r}$$

$$n + \frac{1}{r} = (\sqrt[n]{y} + \frac{1}{r})^r \rightarrow \sqrt[n]{y} = \sqrt[n]{n + \frac{1}{r}} - \frac{1}{r}$$

$$\xrightarrow{\text{رؤس}} y = n + \frac{1}{r} + \frac{1}{r} - \sqrt[n]{n + \frac{1}{r}} \rightarrow f^{-1}(n) = n - \frac{1}{r} - \sqrt[n]{n + \frac{1}{r}}$$

$$1 + r(\frac{1}{r}) + r(-\frac{1}{r}) = 1$$

$$a = 1 \quad b = \frac{1}{r} \quad c = -\frac{1}{r}$$

$$f(n_1) = f(n_2) \rightarrow \frac{n_1}{\sqrt{n_1^2-1}} = \frac{n_2}{\sqrt{n_2^2-1}} \rightarrow \frac{n_1^2}{n_1^2-1} = \frac{n_2^2}{n_2^2-1}$$

$$\cancel{n_1^2} \cdot \cancel{n_2^2} = \cancel{n_2^2} \cdot \cancel{n_1^2} \rightarrow n_1^2 = n_2^2 \rightarrow n_1 = \pm n_2 \xrightarrow{\text{رؤس}} n_1 = n_2$$

$$y = \frac{n}{\sqrt{n^2-1}} \rightarrow n = \frac{y}{\sqrt{y^2-1}} \rightarrow n^2 = \frac{y^2}{y^2-1} \rightarrow n^2 y^2 - y^2 = y^2 \rightarrow n^2 y^2 = y^2 + y^2$$

$$y^2 = \frac{y^2}{n^2-1} \rightarrow y = \pm \sqrt{\frac{y^2}{n^2-1}}$$

$$f^{-1}(n) = \frac{n}{1+|n|}$$

$$D_{f^{-1}} = -\frac{1}{2} \rightarrow R_g = -\frac{1}{2}$$

$$\sqrt{n-1} = -\frac{1}{2} \rightarrow \sqrt{n} = \frac{1}{2} \rightarrow n = \frac{1}{4}$$

$$-\frac{1}{2} = D_f \rightarrow -\frac{1}{2} = R_{f^{-1}}$$

$$-\frac{1}{2} + \frac{1}{2} = \boxed{\frac{-1}{\sqrt{5}}}$$

$$\frac{n}{1+|n|} = -\frac{1}{2} \rightarrow 2n = -1-|n| \rightarrow 2n = -1+|n| \rightarrow n = -\frac{1}{2}$$

$$y = \sqrt[n]{n-1} \xrightarrow{f(n)} y = n^2+1$$

$$g(n) = f(n) + \sqrt{f(n)} = 11$$

$$g \rightarrow (n, 11)$$

$$g^{-1} \rightarrow (11, n)$$

$$f(n) = 9$$

$$n^2+1 = 9 \rightarrow n^2 = 8 \rightarrow n = \sqrt{8}$$