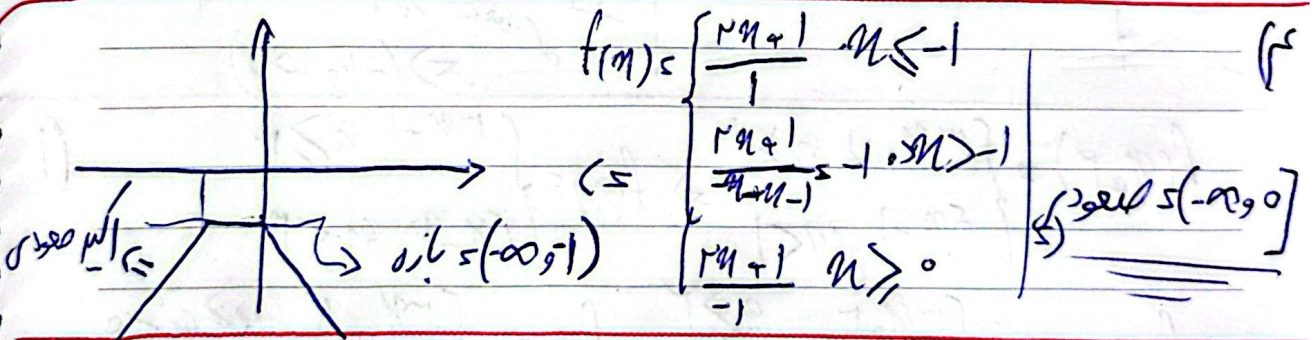
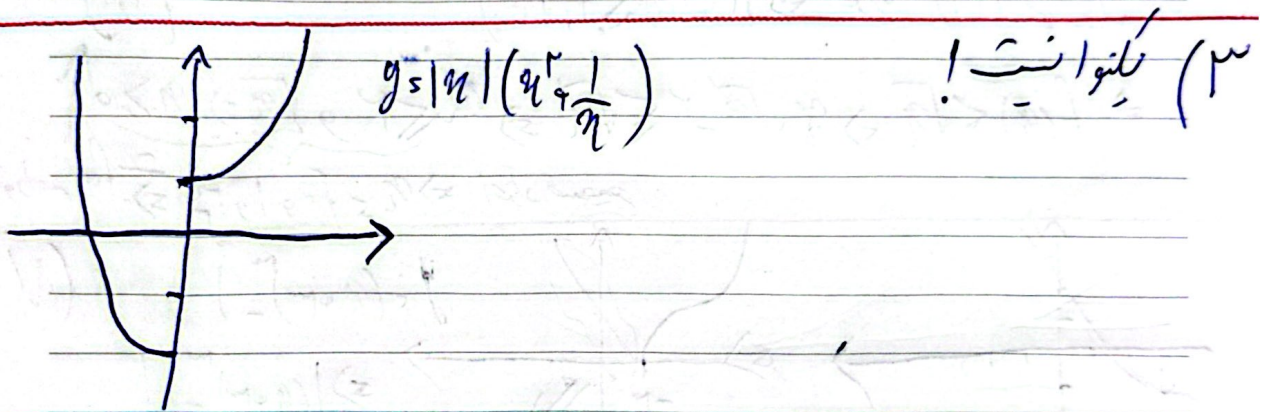
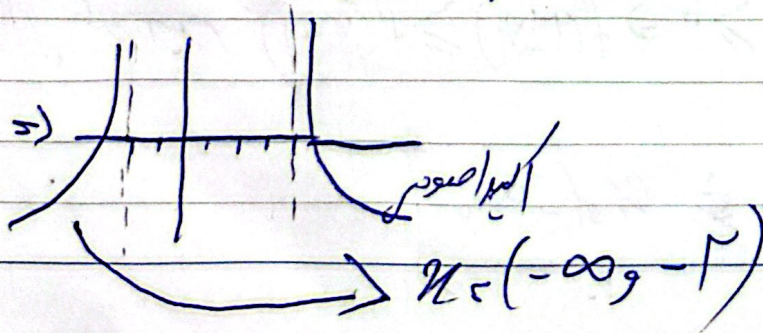


$$f(f(n)) < f(n^3) \Rightarrow f(n^3 + n) < f(n^3) \Rightarrow \text{چونکہ } f(n) \text{ بڑھتا ہے} \Rightarrow n^3 + n < n^3 \Rightarrow \underline{n < 0}$$



$$g = \int_1^{\infty} \frac{1}{x^2} dx = \left[-\frac{1}{x} \right]_1^{\infty} = 0 - (-1) = 1$$

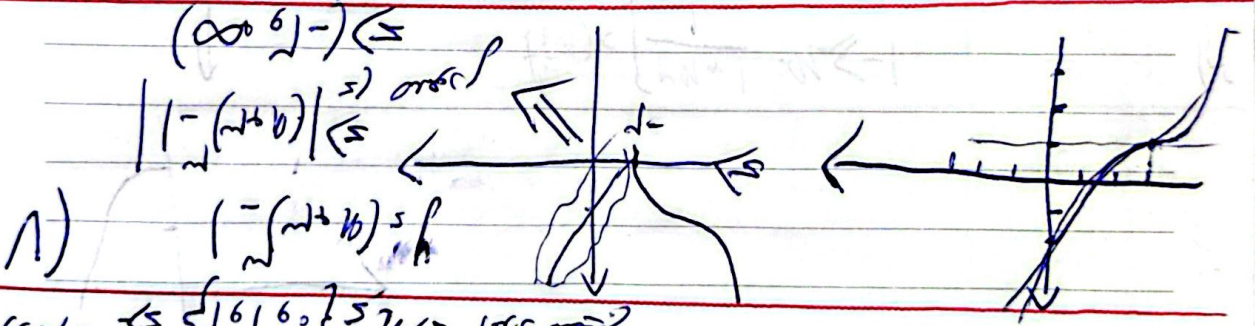


REF. GROUP

$$f(1+b) \geq f(1-b) \Leftrightarrow 0 \leq f(1+b) - f(1-b) \leq f(1+b) + f(1-b)$$

$$\begin{cases} 0 < 1+b < 1-b \\ 0 < 1-b < 1+b \end{cases} \Rightarrow \begin{cases} f(1+b) \geq f(1-b) \\ f(1-b) \geq f(1+b) \end{cases} \Rightarrow f(1+b) = f(1-b)$$

$$1) \quad \begin{cases} 1 < 1+b < 1-b \\ 1 < 1-b < 1+b \end{cases} \Rightarrow \begin{cases} f(1+b) \geq f(1-b) \\ f(1-b) \geq f(1+b) \end{cases} \Rightarrow f(1+b) = f(1-b)$$



$$\begin{aligned} & \int_0^1 f(x) dx = \int_0^1 g(x) dx \\ & \Rightarrow \int_0^1 f(x) dx = \int_0^1 (1-f(x)) dx \\ & \Rightarrow \int_0^1 f(x) dx = 1 - \int_0^1 f(x) dx \\ & \Rightarrow 2 \int_0^1 f(x) dx = 1 \\ & \Rightarrow \int_0^1 f(x) dx = \frac{1}{2} \end{aligned}$$

$$2) \quad \int_0^1 f(x) dx = \frac{1}{2}$$

3)

$$\begin{aligned} & \int_0^1 f(x) dx = \frac{1}{2} \\ & \Rightarrow \int_0^1 f(x) dx = \frac{1}{2} \\ & \Rightarrow \int_0^1 f(x) dx = \frac{1}{2} \end{aligned}$$

$$0 < \cos \alpha \leq 1 \Rightarrow \begin{aligned} & -159(\cos \alpha - 1) \sqrt{1} - 159(\cos \alpha - 1) \sqrt{1} \quad (9) \\ & -151 - 9(\cos \alpha) \leq 1 \quad -151 - 9(\cos \alpha) \leq 1 \end{aligned}$$

$$\Rightarrow \min \left\{ \frac{1}{\sqrt{1}} - \frac{1}{\sqrt{1}} \right\} = \frac{1}{\sqrt{1}} - \frac{1}{\sqrt{1}} = 0$$

$$\Rightarrow \max \left\{ \frac{1}{\sqrt{1}} - \frac{1}{\sqrt{1}} \right\} = \frac{1}{\sqrt{1}} - \frac{1}{\sqrt{1}} = 0$$

$$f(n) \leq n - [n] - 1 \Rightarrow \min \{1, f(n)\} = 1 \quad (10)$$

$$\Rightarrow g \circ f \leq g(f(n)) \leq \frac{f(n) - f(n)}{1} \leq \frac{1}{1} = 1$$

$$\Rightarrow \frac{1}{1} = 1$$

$$\Rightarrow Rf \leq \left(\frac{1}{1}, \frac{1}{1} \right)$$