

$$\frac{1}{n-1} = n-1 \Rightarrow n = 0 \text{ or } 2 \quad \frac{1}{n+1} = n+1 \Rightarrow n = 0 \text{ or } -2$$

$$\text{الف) } |2n-1| < |2n| \Rightarrow f_{n-1} - f_{n+1} < f_n \Rightarrow n > \frac{1}{2}$$

$$\Rightarrow |n-2| > |n+1| \Rightarrow n^2 - (2n+4) < n^2 + 2n + 1 \Rightarrow n = -1 \text{ or } \frac{1}{2} \sim (-\infty, -1) \cup (\frac{1}{2}, \infty)$$

$$n^2 - n - 4 < 0 \sim n \in (-1, 5) \quad \alpha - \beta < n < \alpha + \beta \Rightarrow \alpha = 1$$

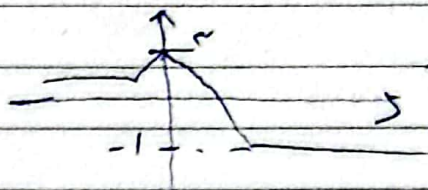
$$\alpha = \frac{1}{2} \Rightarrow \beta = \frac{5}{2}$$

$$2) \quad 2 \Rightarrow -1$$

$$f(n < 2) \Rightarrow -2n + 5$$

$$f(n < 0) \Rightarrow 2n + 5$$

$$n < -1 \Rightarrow 1$$



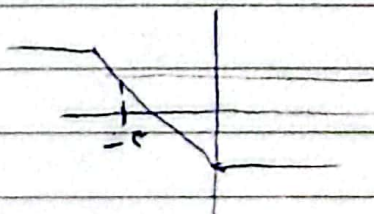
$$\rightarrow f + (-1) = 2$$

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

$$n > 0 \sim -2$$

$$f(n < 0) \sim -n - 2$$

$$n < -2 \sim 2$$



$$-n - 2 = 1 \Rightarrow n = -3$$

الف)

$$n > 1 \sim -2$$

$$f(n < 1) \sim -2n - 2 \sim \{-2, -4, \dots, -2\}$$

$$n < -1 \sim 2$$

$$\Rightarrow \frac{1}{n} - [\frac{1}{n}] + 1 \sim 1 \leq \frac{1}{n} - [\frac{1}{n}] + 1 < 2 \sim n \in [1, 2)$$

$$\text{الف) } -1 \leq \frac{1}{n} \rightarrow 0$$

$$\frac{1}{2} \leq 0 \rightarrow -1$$

$$0 \leq \frac{1}{2} \rightarrow -2$$

$$\frac{1}{2} \leq 1 \rightarrow -2$$

