

ش. ۲۰

مستند

دستاویز

DATE / / SUBJECT:

یازدهم دفتر

$$|x-1| \leq \frac{1}{n-1} \rightarrow n-1 \leq \frac{1}{n-1} \rightarrow n^2 - 2n + 1 \leq 1 \rightarrow n^2 - 2n \leq 0 \rightarrow n \leq 2$$

$$n-1 \leq \frac{1}{1-n} \rightarrow 2n - n^2 - 1 \leq 1 \rightarrow n^2 - 2n + 2 \leq 0 \rightarrow \Delta < 0$$

$$\left. \begin{aligned} n \leq 0 &\rightarrow |1-1| \leq \frac{1}{-1} \rightarrow 0 \leq -1 \times \\ n \leq 2 &\rightarrow |2-1| \leq \frac{1}{2-1} \rightarrow 1 \leq 1 \checkmark \end{aligned} \right\} n \leq 2$$

$$| \frac{2n-1}{n} | < 2$$

$$-2 < \frac{2n-1}{n} < 2$$

$$\frac{2n-1}{n} + 2 > 0 \rightarrow \frac{4n-1}{n} > 0$$

$$\frac{2n-1}{n} - 2 < 0 \rightarrow \frac{-1}{n} < 0 \rightarrow \frac{1}{n} > 0 \rightarrow n > 0$$

$$D_f = (\frac{1}{2}, +\infty)$$

$$| \frac{n-2}{2n+1} | > 1$$

$$-1 < \frac{n-2}{2n+1} < 1$$

$$\Rightarrow \left\{ \begin{aligned} \frac{n-2}{2n+1} > 1 &\rightarrow \frac{n-2}{2n+1} - 1 > 0 \rightarrow \frac{n-2-2n-1}{2n+1} > 0 \rightarrow \frac{-n-3}{2n+1} > 0 \\ \frac{n-2}{2n+1} < -1 &\rightarrow \frac{n-2}{2n+1} + 1 < 0 \rightarrow \frac{3n-1}{2n+1} < 0 \end{aligned} \right.$$

$$\Rightarrow (-3, -\frac{1}{2}) \cup (-\frac{1}{2}, \frac{1}{3})$$

$$n^2 < |n+4| \rightarrow n^2 - n - 4 < 0 \rightarrow n^2 + n + 4 > 0 \rightarrow \Delta < 0 \rightarrow \mathbb{R}$$

$$n^2 - n - 4 \leq (n-3)(n+2) \leq 0 \rightarrow D_f = [-2, 3]$$

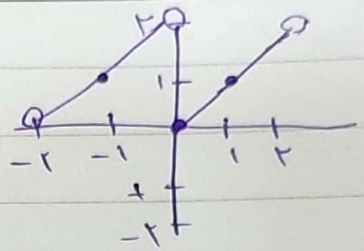
$$-2 < n < 3 \rightarrow \frac{n-2}{2} \leq \frac{1}{2} \rightarrow |n-1| \leq \frac{1}{2} \rightarrow |n - \frac{1}{2}| < \frac{3}{4}$$

$$a = \frac{1}{2} \quad B = \frac{3}{4}$$

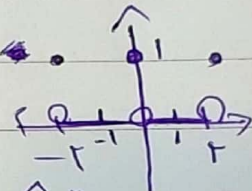
$$\rightarrow y = x - 2 \left[\frac{x}{2} \right] \quad x \in (-2, 2)$$

$$-2 < x < 0 \rightarrow y = x - 2(-1) = x + 2$$

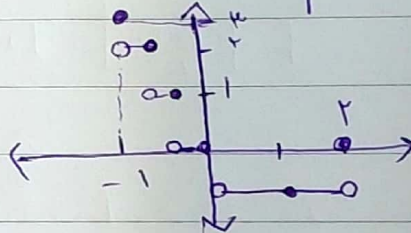
$$0 \leq x < 2 \rightarrow y = x - 2(0) = x$$



$$\text{ii) } y = [|x| - 1] \quad x \in [-2, 2]$$



$$\rightarrow y = [x - 2x] \quad x \in [-1, 2]$$



$$a + (b - 1, 2) = 2, 1$$

$$b - (a - 1, 2) = 2, 1$$

$$2b = 2, 4 + 1, 2 = 2, 1 \rightarrow b = 1, 2$$

$$a = 1, 2$$

$$a + b = 1, 2 + 1, 2 = 2, 4$$

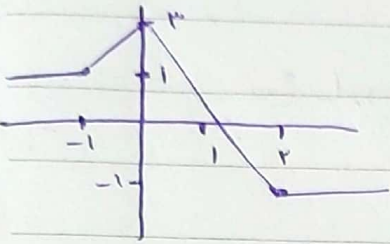
$$(1 + \sqrt{2})^4 + (1 - \sqrt{2})^4 = 19$$

$$(1 + \sqrt{2})^4 = 19 - (1 - \sqrt{2})^4$$

$$-1 < 1 - \sqrt{2} < 0 \rightarrow 0 < (1 - \sqrt{2})^4 < 1$$

$$[(1 + \sqrt{2})^4] = [19 - (1 - \sqrt{2})^4] = 18$$

$$y = |n+1| - |2n| + |n-2|$$



$$\begin{array}{c|c|c|c} -1 & 0 & 1 & 2 \\ \hline -n-1+2n+2 & n+1+2n+2-n & n+1-2n & n+1-2n+n-2 \\ \hline -n+1 & = 2n+3 & +1-n & = -1 \\ & & 2-2n & \end{array}$$

$$\max y = 2 \quad \min y = -1$$

$$\max + \min = 2 - 1 = 1$$

$$y = \left| \frac{n}{r} \right| - 2 \rightarrow y = \left| \frac{n+\epsilon}{r} \right| - 2 + \left| \frac{n+\epsilon}{r} \right| - 1$$

$$n \geq 0 \rightarrow n = n + \epsilon + 2 \rightarrow 0 = 4, \alpha$$

$$\left| \frac{n}{r} \right| + \left| \frac{n+\epsilon}{r} \right| + 1$$

$$-\epsilon \leq n < 0 \rightarrow -n = n + \epsilon + 2 \rightarrow n = -2 \checkmark$$

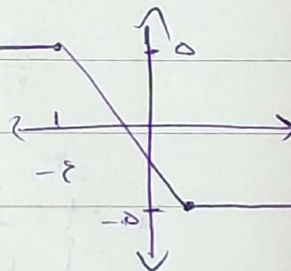
شکل کو برعکس

$$n < -\epsilon \rightarrow -n = -(n + \epsilon) + 2 \rightarrow 0 = -2, \alpha$$

$$\left| \frac{n}{r} \right| - 2 + \left| \frac{n+\epsilon}{r} \right| - 1$$

$$f(n) = [|1-n| - |n+\epsilon|]$$

n	1	-ε	0	2
y	0	Δ	Δ	-0



دار نقطہ گذشت

$$R = \{-0, -\epsilon, -2, -1, 0, 1, 2, 3, \epsilon, \Delta\}$$

$$b) f(n) = \frac{1}{n} = \left[\frac{n+1}{n} \right] = \frac{1}{n} - \left[1 + \frac{1}{n} \right] = \frac{1}{n} - \left[\frac{1}{n} \right] - 1 \rightarrow R = [-1, 0)$$

(9,1)

$$y = \left[-\frac{1}{n} \right] - 1 \quad n \in (-1, 1)$$

$$-1 \leq n \leq -\frac{1}{r} \rightarrow y = 1 - 1 = 0$$

$$-\frac{1}{r} < n \leq 0 \rightarrow y = 0 - 1 = -1$$

$$0 < n < \frac{1}{r} \rightarrow y = 1 - 1 = 0$$

$$\frac{1}{r} \leq n < 1 \rightarrow y = 2 - 1 = 1$$

