

نام و نام خانوادگی دبیر پاسخنامه تشریحی تکلیف شماره ۲۰ کلاس نام و نام خانوادگی دبیر

$$\frac{1}{a-1} \geq |a-1| \xrightarrow{n \geq 1} n-1 \leq \frac{1}{n-1} \rightarrow n^2 - 2a + 1 \leq 1 \rightarrow a(n-2) \leq 0$$

(n=2)

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

یک ریشه دارد

الف) $\left| \frac{2a-1}{n} \right| < 1 \rightarrow -1 < \frac{2a-1}{n} < 1 \rightarrow \frac{2a-1}{n} < 1 \rightarrow 2a-1 < n \rightarrow 2a < n+1 \rightarrow a < \frac{n+1}{2}$

ب) $\left| \frac{a-2}{n+1} \right| > 1 \rightarrow \frac{a-2}{n+1} > 1 \rightarrow a-2 > n+1 \rightarrow a > n+3$

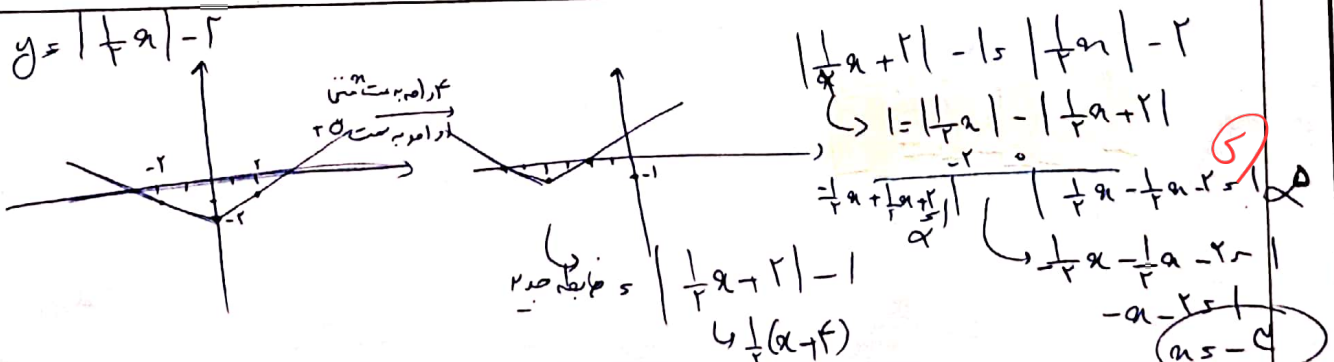
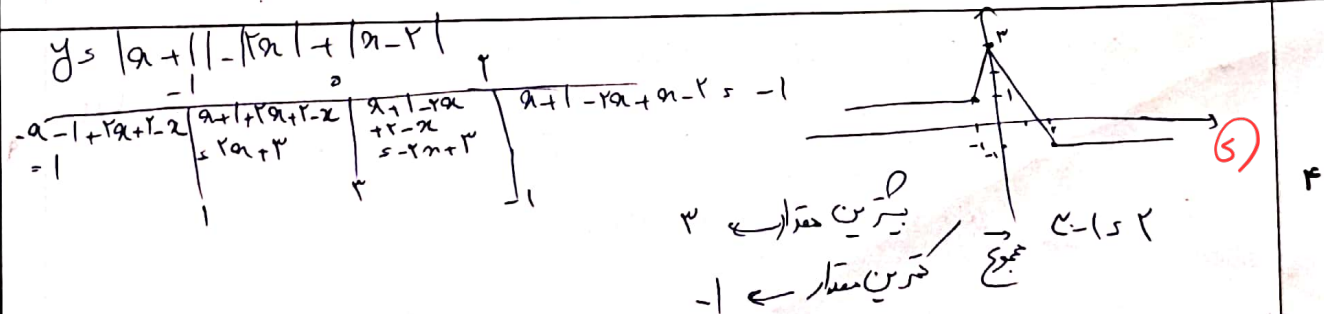
دو (۲) $(-\infty, -\frac{1}{2}) \cup (\frac{1}{2}, \infty)$

$$a^2 < |n+4| \rightarrow a+4 > a^2 \rightarrow 0 > a^2 - a - 4 \rightarrow 0 > (a+1)(a-5) \rightarrow -5 < a < 1$$

دو (۲) $-5 < a < 1$

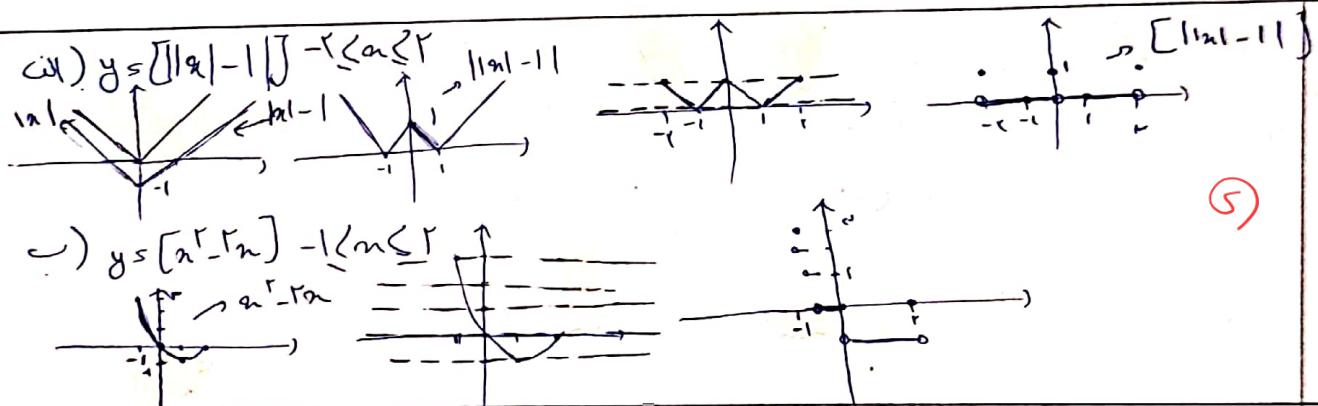
دو (۲) $|a-\alpha| < \beta \rightarrow \beta < a-\alpha < \beta \rightarrow \alpha < a < \alpha+\beta$

دو (۲) $\alpha = -\frac{1}{2}$



$f(x) = [1-x] - [x+1] = -x+1 - x-1 = -2x \rightarrow [-2] = -2$
 $\{x\} \leq \omega \rightarrow [2x-1] \rightarrow \frac{1}{2} \leq x \leq 1$
 $\rightarrow x = \{\pm \omega, \pm \varepsilon, \pm \omega, \pm 1, \pm 1, 0\}$
 $\rightarrow \{x\} = \frac{1}{x} - \left[\frac{x+1}{x}\right] = \frac{1}{x} - \left[1 + \frac{1}{x}\right] = \frac{1}{x} - \left[\frac{1}{x}\right] - 1 \rightarrow x = [-1, 0)$
 $0 \leq \{x\} < 1$

ا) $y = [-2x] - 1 \quad -1 \leq x < 1 \rightarrow -2 \leq -2x < 2 \rightarrow [-2x] = -1$
 $x < -\frac{1}{2} \rightarrow [-2x] = 1 \rightarrow y = 0$
 $-1 \leq x < 0 \rightarrow [-2x] = 0 \rightarrow y = -1$
 ب) $y = x - 2\left[\frac{x}{2}\right] \quad -1 \leq x < 1 \rightarrow -1 \leq \frac{x}{2} < \frac{1}{2}$
 $-1 \leq \frac{x}{2} < 0 \rightarrow x - 2(-1) = x + 2 \quad (-1 \leq x < 0)$
 $0 \leq \frac{x}{2} < \frac{1}{2} \rightarrow x - 2(0) = x \quad (0 \leq x < 1)$



$a + [b] = 4/5 \rightarrow [a + [b]] = 4 \rightarrow [a] + [b] = 4$
 $b - [a] = 1/4 \rightarrow [b - [a]] = 1 \rightarrow [b] - [a] = 1$
 $[a] = 3 \rightarrow a = 3/4$
 $[b] = 1 \rightarrow b = 1/4$
 $a + b = 3/4 + 1/4 = 1$

$(1+\sqrt{2})^4 + (1-\sqrt{2})^4 = 19 \rightarrow (1+\sqrt{2})^4 = 19 - (1-\sqrt{2})^4$
 $\rightarrow (1+\sqrt{2})^4 = 19A - (1-\sqrt{2})^4 = 19V \dots \rightarrow [(1+\sqrt{2})^4] = 19V$