

$$\frac{1}{x-1} = |x-1|$$

$$\downarrow$$

$$x=1$$

$$\frac{1}{x-1} = 1-x \Rightarrow 1 = (1-x)(x-1)$$

$$\Rightarrow -x^2 + 2x - 1 = 1 \Rightarrow x^2 - 2x + 2 = 0$$

$$\Delta = 4 - 4 = 0 \Rightarrow \Delta = 0$$

$$\Delta = 4 - 4 = 0 \Rightarrow \Delta = 0$$

۱۰۴ سوال ۱۰۳ (۱۰۳) در ادامه سوال ۱۰۲
 (۱۱) $\left| \frac{x-1}{x} \right| < 2 \Rightarrow -2 < \frac{x-1}{x} < 2$
 $-2x < x-1 \Rightarrow 1 < 3x \Rightarrow \frac{1}{3} < x$ (II) $\frac{x-1}{x} < 2 \Rightarrow -1 < 0$ $\checkmark$ همیشه
 جواب
 (۱۲) $\left| \frac{x-2}{x+1} \right| > 1 \Rightarrow$ (I) $\frac{x-2}{x+1} > 1 \Rightarrow x-2 > x+1 \Rightarrow -3 > 1$
 (II) $\frac{x-2}{x+1} < -1 \Rightarrow x-2 < -x-1 \Rightarrow x < 1$
 جواب: $(-\infty, \frac{1}{3}) \cup (\frac{1}{3}, \infty)$

جواب سوال ۱۱: α را بیابید.
 (I) $x+y > 2x \rightarrow x-y-x-y < 0 \rightarrow (x-y)(x+y) < 0$
 (II) $x+y < -2x \rightarrow x+y+x+y < 0 \rightarrow \Delta < 0$ میسازد

$$\alpha = \frac{-1+y}{1} \Rightarrow |x-1/y| < \frac{\omega}{1}$$

$$\beta = \frac{1+y}{1}$$

مجموع بیشترین و کمترین مقدار تابع $y = |x+1| - |x| + |x-2|$ را بیابید.

$x < -1$	$-1 \leq x < 0$	$0 \leq x < 2$	$x \geq 2$
$-x-1-1+x-x+2$	$x+1+x-x-x+2$	$x+1-x-x-x+2$	$x+1-x-x+x-2$
$y = 1$	$y = x+1$	$y = -x+1$	$y = -1$

جواب: $2 - 1 = 1$

فردار مع $y = |x-2|$ و f واحد به طرف مهای مثبتی و g واحد به طرف مهای منفی انتقال می دهیم. فردار جدید و فردار اولی را با $1/x$ متناوع هستند؟

$$g = |1/x - 2|$$

$$y = \left| \frac{1}{4}x + f \right| - y + 1 \Rightarrow \left| \frac{1}{4}x + f \right| - 1 = \left| \frac{1}{4}x \right| - y$$

$$\left| \frac{1}{4}x + f \right| - \left| \frac{1}{4}x \right| = -1 \rightarrow$$

	-1	0
$-\frac{1}{4}x - f + \frac{1}{4}x = -1$	$\frac{1}{4}x + f + \frac{1}{4}x = -1$	$\frac{1}{4}x + f - \frac{1}{4}x = -1$
$-f = -1$ ÖÖÖ	$x = -4$ ↓ x	$f = -1$ ÖÖÖ

$$\frac{1}{4}x = -f$$

$$x = -4f$$

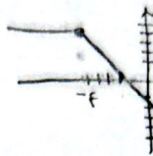
iii) $f(x) = [|1-x| - |x+1|]$

$$\begin{array}{c|c|c} & -K & 1 \\ \hline 1-s-(s-F) & 1-s-s-K & s-1-s-F \\ \hline \textcircled{os} & -1s-1s & \textcircled{-os} \end{array}$$

$$\text{ب) } f(u) = \frac{1}{u} - \left[\frac{u+1}{u} \right] \rightarrow 1 + \frac{1}{u}$$

$$\frac{1}{2} - \left[\frac{1}{2} \right] - 1$$

$$\frac{1/n - [1/n]^{-1}}{t - [t]^{-1}} \cdot (-1) \quad -1 \leq 1/n - [1/n]^{-1} < 0 \Rightarrow R_F = [-1, 0)$$



$$-a \leq |1-u| - |u+\epsilon| \leq a$$

$$R_f = \{-a, -f, -e, -d, -c, -b, -a\}$$

(iv) $y = [-x] - 1 \quad x \in (-1, 1)$

$$-1 < x < -\frac{1}{4} \rightarrow 1 < -x < 4 \rightarrow \textcircled{1}$$

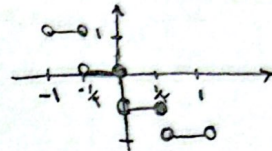
$$\textcircled{1} -\frac{1}{4} < x < 0 \xrightarrow{\textcircled{2}} 0 < -x < 1 \rightsquigarrow \textcircled{0}$$

$$(\odot) \circ \prec x \preceq \frac{1}{p} \xrightarrow{(-1)} -1 \preceq -x \prec 0 \rightsquigarrow E$$

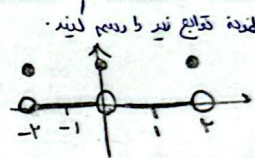
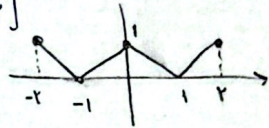
ii) $y = x - r \left[\frac{x}{r} \right] \quad x \in (-r, r)$

$$-1 < x < 0 \Rightarrow -1 < \frac{x}{y} < 0 \Rightarrow (-1)$$

$$\bullet \frac{x}{y} < 1 \rightsquigarrow \bullet \frac{x}{y} < 1 \rightsquigarrow \odot$$

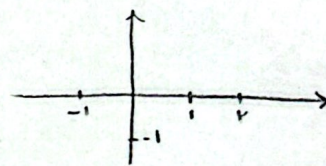
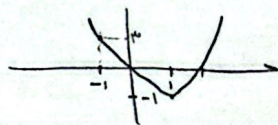
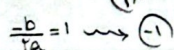
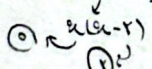


الف) $y = [|x-1|] \quad x \in [-2, 2]$



ب) $y = [x^t - 2x]$

$$u \in [-1, 1]$$



$$[a] + [b] = f$$

$$[b] - [a] = 4$$

$$\overline{r[b] = 4} \longrightarrow \overline{[b] = 10}$$

$$a + [b] \xrightarrow{[b]=10} a + 10 = 11 \rightsquigarrow \underline{a = 1, 1}$$

اگر $a + [b] = ۴,۲$ ، $b - [a] = ۲,۴$ باشند ، حاصل $a + b$ را بیابید .

$$b = 10, K$$

$$[a] = 1$$

$$a = \frac{1}{1.4}$$

$$b = \frac{w}{k}$$

(K, 4)

عہد اب

$$\sqrt{2} = 1.414 \dots \text{ و } (1 + \sqrt{2})^4 + (1 - \sqrt{2})^4 = 48$$

$$(1 + \sqrt{2})^4 = 191 - (1 - \sqrt{2})^4 \Rightarrow 191, \dots$$

$$[(1 + \sqrt{4})^9] = 19V$$

$$\cdot \langle 1 - \sqrt{2} \rangle \xrightarrow{9 \text{ WJ}} \cdot \langle (1 - \sqrt{2})^9 \rangle$$