

نام و نام خانوادگی ..... زهرا یزدانیا ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس ..... یازدهم ریاضی

$$\frac{1}{x-1} = |x-1| \rightarrow \frac{1}{x-1} = x-1 \rightarrow 1 = x^2 - 2x + 1 \rightarrow x^2 - 2x = 0 \rightarrow \boxed{x=2}$$

محقق = 0

$$\frac{1}{x-1} = 1-x \rightarrow 1 = -x^2 + 2x - 1 \rightarrow x^2 - 2x + 2 = 0 \rightarrow \Delta = 4 - 8 = -4 < 0$$

محقق < 0

الف)  $\left| \frac{x-1}{x} \right| < 2 \rightarrow |x-1| - |2x| < 0 \rightarrow \frac{0}{1} \quad \frac{1}{1-2x} \quad \frac{1}{-1} \rightarrow \boxed{\left[ \frac{1}{2}, +\infty \right)}$

ب)  $\left| \frac{x-2}{x+1} \right| > 0 \rightarrow |x-2| - |x+1| > 0 \rightarrow \frac{-\frac{1}{2}}{x+3} \quad \frac{2}{1-2x} \quad \frac{2}{-x-3} \rightarrow \boxed{\left[ -\frac{3}{2}, \frac{1}{2} \right] - \left\{ \frac{1}{2} \right\}}$

$$x^2 - |x+6| < 0 \rightarrow \frac{-6}{x^2+x+6} \quad \frac{-6}{x^2-x-6} = (x-3)(x+2)$$

+   -   +

$$|x-a| < \beta \rightarrow a = \frac{3+(-2)}{2} = \boxed{\frac{1}{2}}$$

$$y = |x+1| - |2x| + |x-2| \rightarrow$$

-1   0   2

1   2x+3   2-2x   -1

1   3   -1

3-1 =  $\boxed{2}$

$$\Delta y = \left| \frac{1}{x} \right| - 2 \rightarrow y = \left| \frac{x+1}{x} \right| - 1 \rightarrow \left| \frac{x+1}{x} \right| - 1 - \left| \frac{x}{x} \right| + 2 = 0$$

-1   0

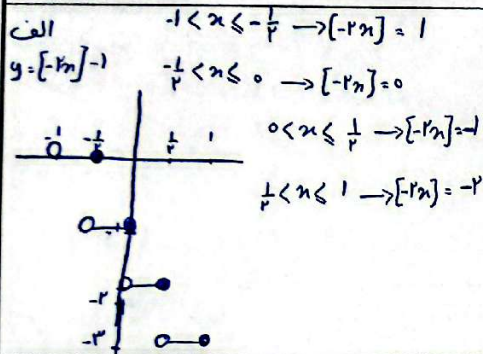
-x-1+x+1=0   x+1+x+1=0   x+x-1=0

-1=0   2x+2=0   2x-1=0

محقق = 0    $\boxed{x=-1}$    2x-1=0

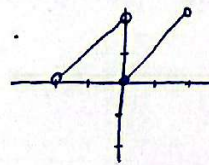
الف ،  $f(x) = [1-x] + [x+f] \rightarrow \frac{-f}{a} \frac{1}{-2x-3} \frac{1}{-a} \rightarrow R_f = \{0, \pm 1, \pm 2, \pm 3, \pm 6, \pm 9\}$

ب ،  $\frac{1}{x} - \left[ \frac{x+1}{x} \right] = \frac{1}{x} - 1 - \left[ \frac{1}{x} \right] = \underbrace{1 - \left[ \frac{1}{x} \right]}_{[0,1)} - 1 \rightarrow [-1, 0)$

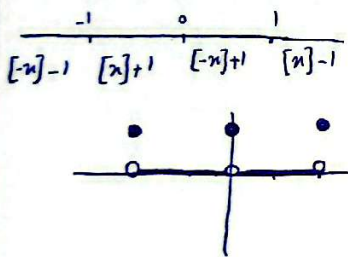


ب ،  $y = x - 2 \left[ \frac{x}{2} \right]$

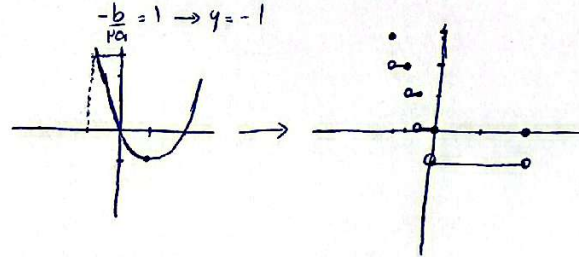
$-2 < x < 0 \rightarrow \left[ \frac{x}{2} \right] = -1 \rightarrow x + 2$   
 $0 \leq x < 2 \rightarrow \left[ \frac{x}{2} \right] = 0 \rightarrow x$



الف ،  $y = [1/2|x|]$  ،  $x \in [-2, 2]$



ب ،  $[x^2 - 2x] \rightarrow x \in [-1, 2]$



$a + [b] = f, r \rightarrow 0, r \rightarrow a$  جزء غير صحيح

$b - [a] = r, f \rightarrow 0, f \rightarrow b$  جزء غير صحيح

$a + b = a + [b] + \underbrace{b - [b]}_{0, f} = f, r + 0, f = \boxed{f, r}$

$(1 + \sqrt{2})^4 + (1 - \sqrt{2})^4 = 198$

$1 - \sqrt{2} \approx -0,4 \rightarrow \cancel{0,4} < 0,4^4 < 1 \rightarrow [198 - (0,4^4)] = \boxed{198}$