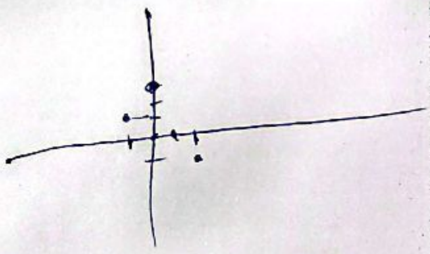
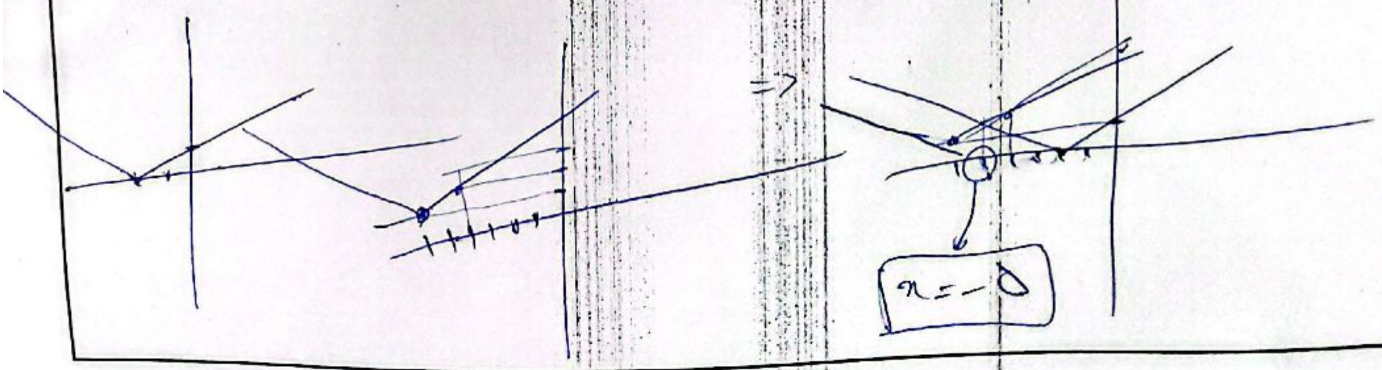
نام و نام خانوادگی ....حسین حاجی حسینی.... پاسخنامه تشریحی تکلیف شماره ....۲.... کلاس ....

۱	$\frac{1}{(x-1)^2} = \|(x-1)\|^2 \Rightarrow 1 = (x-1)^4 \Rightarrow (x-1)^4 - 1 = 0 \Rightarrow x = 2, 0$ دو ریشه دارد
۲	$\left\|\frac{2x-1}{x}\right\| < 2 \to \frac{2x-1}{x} < 2 \Rightarrow 2x-1 < 2x \Rightarrow$ $\frac{2x-1}{x} > -2 \Rightarrow 2x-1 > -2x \Rightarrow 4x > 1 \Rightarrow \boxed{x > \frac{1}{4}}$ $\left\|\frac{x-2}{2x+1}\right\| > 1 \Rightarrow \frac{x-2}{2x+1} > 1 \Rightarrow x-2 > 2x+1 \Rightarrow -3 > x$ $\frac{x-2}{2x+1} < -1 \Rightarrow x-2 < -2x-1 \Rightarrow 3x < 1 \Rightarrow x < \frac{1}{3}$
۳	$\frac{\|x^2\|}{\|x+6\|} < 1 \Rightarrow \left\|\frac{x^2}{x+6}\right\| - 1 < 0 = \left\|\frac{x^2-x-6}{x+6}\right\| < 0$ $(x-3)(x+2)$ $x+6 = 0 \Rightarrow -6$ $-2 \quad 3$: $+ \mid - \mid +$ $(-2, 3)$
۴	$y = \|x+1\| - \|2x\| + \|x-2\|$ y: 3, -1 ; x: 0, 2, -1  $max = 3$ $3 + (-1) = \boxed{2}$ $min = -1$
۵	 $\boxed{x = -5}$

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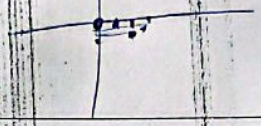
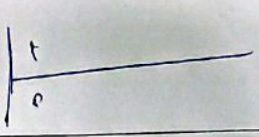
ب)

$\frac{1}{n} - \left[1 + \frac{1}{n}\right] = \frac{1}{n} - 1 - \left[\frac{1}{n}\right] =$

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

$\Rightarrow R = (-\infty, +\infty)$





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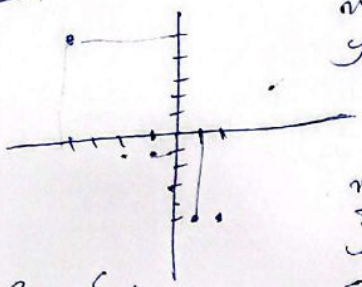
x	0	1	2	3
y	-3	-5	-5	-5

x	-1	-2	-3
y	-1	-1	0



$R = \{x \mid x \in Z, x \in [-3, 0]\}$

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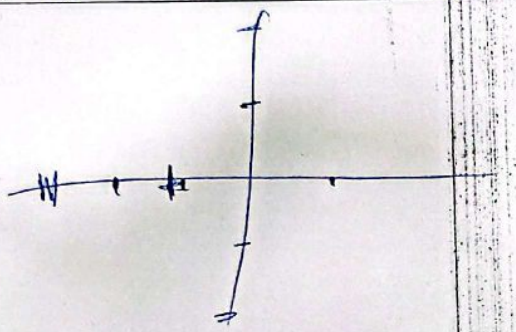
الف)



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$b - [a] = 1,4 \Rightarrow b = n + .4$

$a + [b] = 4,2 \Rightarrow a = y + .2$

$a + b = y + .2 + n + .4 = n + y + .6$

$a = 1,2$
$b = 3,4$ $\Big\} a + b = 4,6$

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