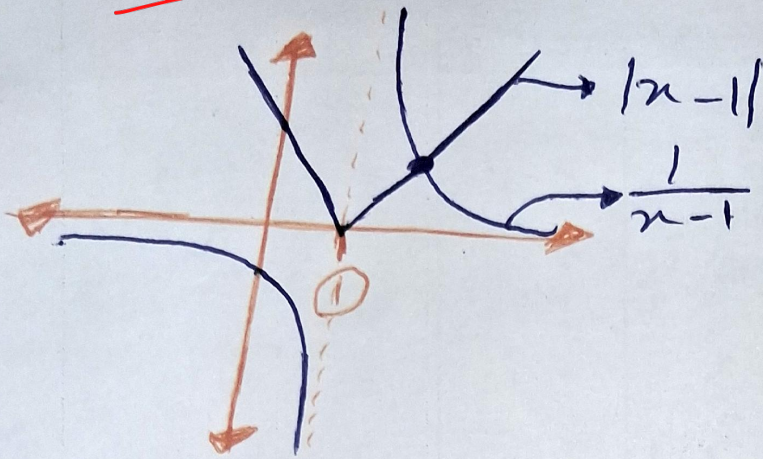


19, 25

* کجایان شغری *

①



⇒ یک ریشه دارد ✓

②

⑤

دقت!

الف) $-2 < \frac{x^{n-1}}{n} < 2 \Rightarrow$

①, ⑤

$$-2 < \frac{x^{n-1}}{n} \Rightarrow \frac{x^{n-1}}{n} + 2 > 0 \Rightarrow \frac{x^n + 2x + 1}{n} > 0$$

$$\Rightarrow \frac{x^n + 1}{n} > 0 \Rightarrow \frac{0}{+} - \frac{1}{-} = +$$

$$\frac{x^{n-1}}{n} < 2 \Rightarrow \frac{x^{n-1}}{n} - 2 < 0 \Rightarrow \frac{x^n - 2x - 1}{n} < 0$$

$$\Rightarrow \frac{-1}{n} < 0 \Rightarrow \frac{0}{+} - \frac{1}{-} = -$$

$$\Rightarrow \left(\frac{1}{n}, +\infty \right)$$

ب) $\frac{x-2}{x+1} > 1, \frac{x-2}{x+1} < -1 \Rightarrow$

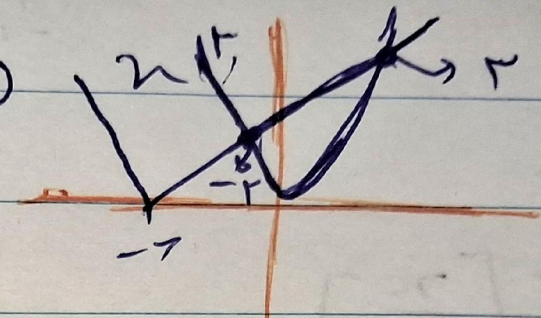
$$\frac{x-2}{x+1} - 1 > 0 \Rightarrow \frac{x-2-x-1}{x+1} = \frac{-2x-3}{x+1} > 0$$

$$\Rightarrow \frac{-2}{-} - \frac{3}{+} = -$$

$$\frac{x-2}{x+1} + 1 < 0 \Rightarrow \frac{x-2+x+1}{x+1} = \frac{2x-1}{x+1} < 0$$

$$\begin{array}{c} -\frac{1}{r} \quad -\frac{1}{r} \\ + \quad - \quad + \end{array}$$

$$\Rightarrow \left(-\frac{1}{r} \text{ or } \frac{1}{r}\right) \cup \left(-r, -\frac{1}{r}\right) \checkmark$$

$(5) \quad x^2 < |x+6| \Rightarrow$

 $\Rightarrow -2x < x$

$$x^2 = x+6$$

$$x = -2 \leq 3$$

$$\Rightarrow \frac{-2+3}{2} = 0.5, \quad \frac{3-(-2)}{2} = 2.5 \Rightarrow |x-0.5| < 2.5$$

$(5) \quad -1, 0, 2 \xrightarrow{\text{بجای}} x$

$\textcircled{1} \quad \textcircled{3} \quad \textcircled{-1}$

$\textcircled{-1}$

$(2) \quad$ میری سب سے بڑی: 3
 کمترین: -1

$$3-1 = \textcircled{2} \checkmark$$

$(5) \quad \left| \frac{1}{2}(x+5) \right| - 2 + 1 = \left| \frac{1}{2}x \right| - 2 \quad (2)$

$$\frac{1}{2}|x+5| + 1 = \frac{1}{2}|x|$$

$$|x+5| + 2 = |x|$$

$$\Rightarrow x+5+2 = -x$$

$$2x = -7$$

$$\checkmark x = -3.5$$

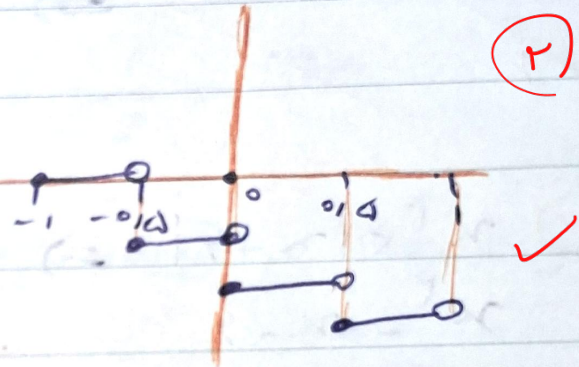
الف) $[|n-1| - |n+3|]$ (2)
 $R = [-0, 0] \Rightarrow R_f = \{\pm 0, \pm 1, \pm 2, \pm 3, \pm 4, 0\}$

ب) $\frac{1}{n} - \left[\frac{1}{n}\right] - 1 \Rightarrow t - [t] - 1$
 $0.5t - [t] < 0$

$\Rightarrow -kt - [t] - 1 < 0 \Rightarrow R_f = [-1, 0)$ ✓

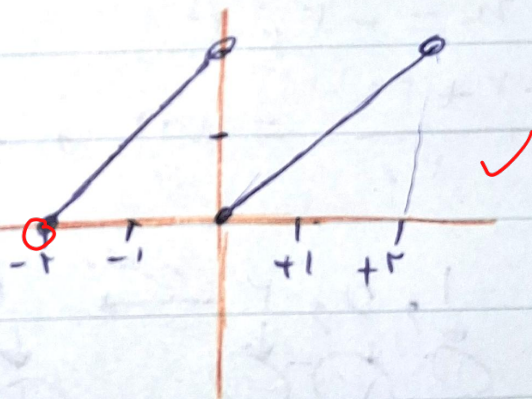
✓

الف) $y = [-tm] - 1$ (2)



ب) $y = n - 2\left[\frac{n}{2}\right]$

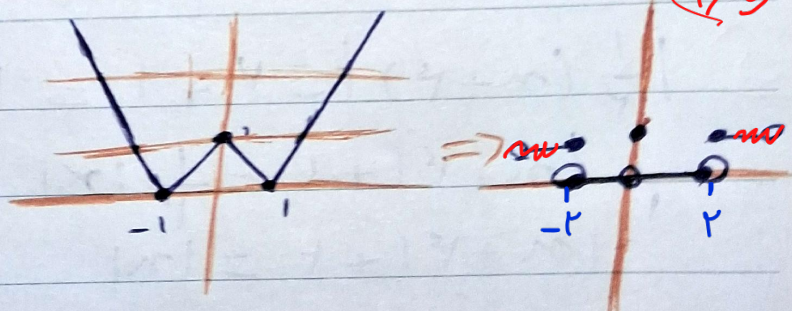
رقت! $(-2, 2)$



A

الف) $y = [|n-1|]$

$|n-1| \Rightarrow$

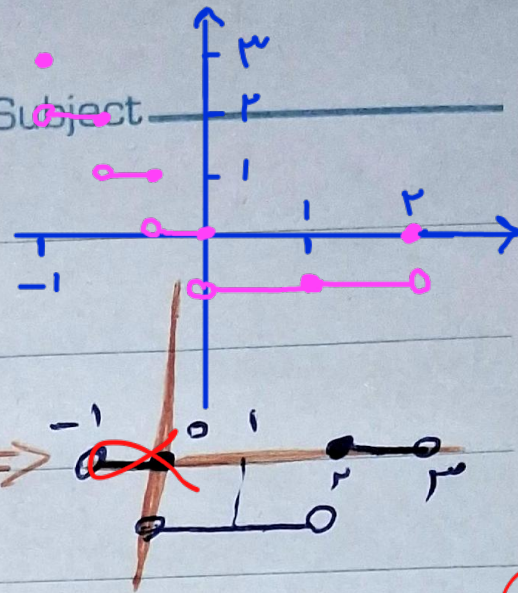
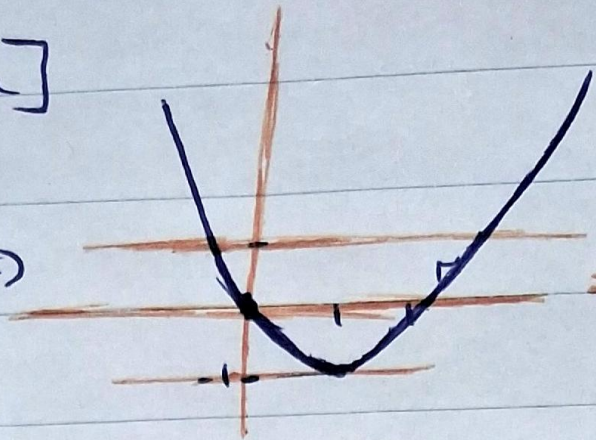


Date _____

Subject _____

ب) $y = [x^2 - 2x]$

$$x^2 - 2x \Rightarrow$$



$a + [b] = 4, 2 \Rightarrow [a + [b]] = 4 \Rightarrow [a] + [b] = 4$
 $b - [a] = 2, 4 \Rightarrow [b - [a]] = 2 \Rightarrow [b] - [a] = 2$
 $\Rightarrow [a] = 1, [b] = 3 \Rightarrow b = 3, 4 \Rightarrow a + b = 4, 5$
 $a = 1, 2$

$(1 + \sqrt{5})^6 = t \Rightarrow t + \frac{1}{t} = 198$

چون $\frac{1}{t}$ عدد بسیار کوچکی است پس t باید نزدیک به 198 باشد

یعنی $197 - 198$ پس $[t] = [(1 + \sqrt{5})^6] = [197, -] = 197$