

19, 20

درس صارت زاده - یازدهم رشت A

$$\frac{1}{n-1} = |n-1| \xrightarrow{n>1} \frac{1}{n-1} = n-1 \Rightarrow (n-1)^2 \geq 1 \Rightarrow n^2 - 2n + 1 = 1 \quad (\text{سوال 1})$$

$$\Rightarrow n(n-2) \geq 0 \Rightarrow n \leq 0 \cup n \geq 2$$

$$\hookrightarrow n=2$$

$$\xrightarrow{n<1} \frac{1}{n-1} = -n+1 \Rightarrow -n^2 + 2n - 1 = 1 \Rightarrow n^2 - 2n + 2 = 0$$

$$\hookrightarrow \Delta = b^2 - 4ac = 4 - 8 < 0$$

$$\Rightarrow n=2 \Rightarrow \text{نقطه}$$

$$\text{الف) } \left| \frac{2n-1}{n} \right| < 2 \rightarrow -2 < \frac{2n-1}{n} < 2 \quad (\text{سوال 2})$$

$$\rightarrow \text{D } \frac{2n-1}{n} + 2 > 0 \quad \frac{4n-1}{n} > 0 \quad \frac{1}{n} \begin{array}{c} + \\ - \end{array} \begin{array}{c} - \\ + \end{array} \rightarrow (-\infty, 0) \cup \left(\frac{1}{4}, +\infty\right)^*$$

$$\rightarrow \text{P } \frac{2n-1}{n} - 2 < 0 \quad -\frac{1}{n} < 0 \rightarrow \frac{1}{n} > 0 \quad \begin{array}{c} 0 \\ - \\ + \end{array} \quad n > 0 \quad **$$

$$** \Rightarrow \text{جواب} \checkmark : \left(\frac{1}{4}, +\infty\right)$$

1, 20

$$\text{ب) } \left| \frac{n-2}{2n+1} \right| > 1 \rightarrow \frac{n-2}{2n+1} > 1 \rightarrow \frac{-n-3}{2n+1} > 0 \quad \begin{array}{c} -3 \\ - \\ + \end{array} \quad \begin{array}{c} - \\ + \end{array}$$

$$\rightarrow \left(-3, -\frac{1}{2}\right)^*$$

$$\frac{n-2}{2n+1} < -1 \quad \frac{n-2}{2n+1} + 1 < 0 \quad \frac{3n-1}{2n+1} < 0 \quad \begin{array}{c} -1 \\ - \\ + \end{array} \quad \begin{array}{c} - \\ + \end{array} \quad \left(-\frac{1}{3}, \frac{1}{2}\right)^*$$

$$** = \emptyset \quad x \in \left(-3, -\frac{1}{2}\right) \cup \left(-\frac{1}{3}, \frac{1}{2}\right)$$

سوال 3) مجموعه جواب ناسازگار: $|n+4| < \beta$ و $|n-4| < \alpha$ که α, β اعداد حقیقی مثبت باشند.

$$n^2 - n - 4 < 0 \quad (n-4)(n+4) < 0 \quad \begin{array}{c} -4 \\ - \\ + \end{array} \quad \begin{array}{c} - \\ + \end{array} \quad (4, 3)^*$$

$$n+4 < -n^2 \rightarrow n^2 + n + 4 < 0$$

$$\hookrightarrow \Delta = 1 - 16 < 0$$

$$|n - \alpha| < \beta \rightarrow -\beta < n - \alpha < \beta \rightarrow \alpha - \beta < n < \alpha + \beta$$

$$\begin{cases} \alpha - \beta = -2 \\ \alpha + \beta = 4 \end{cases}$$

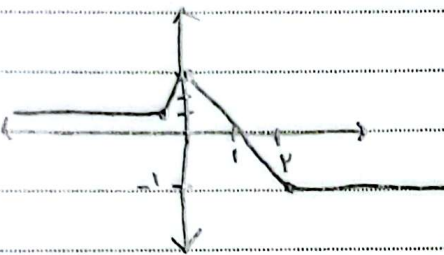
$$2\alpha = 1 \Rightarrow \alpha = \frac{1}{2}$$

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

-1 0 2

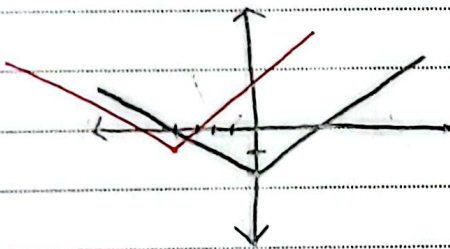
-1	0	2	
$-x-1+2x$	$x+1+2x$	$x+1-2x$	$x+1-2x+x-2$
$-x+2$	$-x+2$	$-x+2$	$= -1$
$= 1$	$-2x+3$	$= -2x+3$	

(عوض)



$$\text{مستقيمات} + \text{مستقيمات} = 3 - 1 = 2$$

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$$y = \left| \frac{1}{p} x \right| - 2 \quad \text{سوال 5}$$

$$\left| \frac{x}{p} \right| - 2 = \left| \frac{x}{p} + 2 \right| - 1$$

$$|t| - |t+2| = 1$$

$$|t| = 1 + |t+2| \quad \text{موجب}$$

$$t = 1 + t + 2 + 2t + 2t + 2 \quad \text{5}$$

$$4t = -9 \rightarrow t = -\frac{9}{4}$$

$$\frac{1}{p} x = -\frac{9}{4} \Rightarrow x = -\frac{9p}{4}$$

$$\text{الف) } f(x) = [|1-x| - |x+2|]$$

-2	-1	1	
$1-x+2+x$	$1-x-x-2$	$x-1-x-2$	$x-1-x-2$
$= 3$	$= -2x-2$	$= -2$	

سطح 4C

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

1.5

$$b) f(n) = \frac{1}{n} - \left(\left\lfloor \frac{n+1}{n} \right\rfloor \right) = \frac{1}{n} - \left[\frac{1}{n} \right] +$$

$$\begin{aligned} & \downarrow 1 + \frac{1}{n} \quad t \\ 0 < t < 1 & \rightarrow 1 < t+1 < 2 \rightarrow R_f = [1, 2) \\ & R_f = [-1, 0) \end{aligned}$$

(v.d)

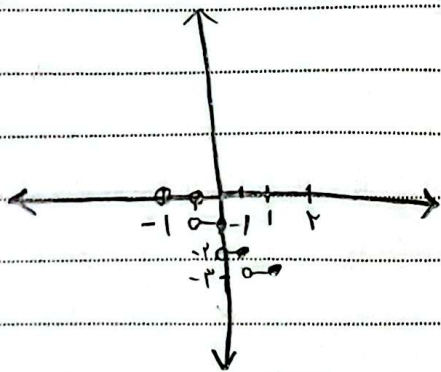
$$الف) y = [-2n] - 1 \quad n \in (-1, 1) \Rightarrow 2n \in (-2, 2)$$

$$-2 < 2n < -1 \rightarrow 1 < -2n < 2 \rightarrow [-2n] = 1 \rightarrow y = 0, -1 < n < -\frac{1}{2}$$

$$-1 < 2n < 0 \rightarrow 0 < -2n < 1 \rightarrow [-2n] = 0 \rightarrow y = -1, -\frac{1}{2} < n < 0$$

$$0 < 2n < 1 \rightarrow -1 < -2n < 0 \rightarrow [-2n] = -1 \rightarrow y = -2, 0 < n < \frac{1}{2}$$

$$1 < 2n < 2 \rightarrow -2 < -2n < -1 \rightarrow [-2n] = -2 \rightarrow y = -4, \frac{1}{2} < n < 1$$

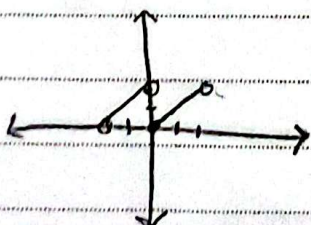
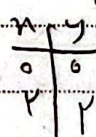
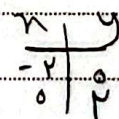


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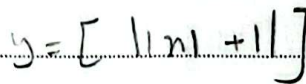
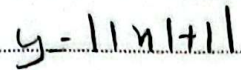
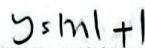
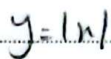
$$ب) y = n - 2 \left[\frac{n}{2} \right] \quad -2 < n < 2 \rightarrow -1 < \frac{n}{2} < 1$$

$$-1 < \frac{n}{2} < 0 \rightarrow \left[\frac{n}{2} \right] = -1 \rightarrow y = n + 2, -2 < n < 0$$

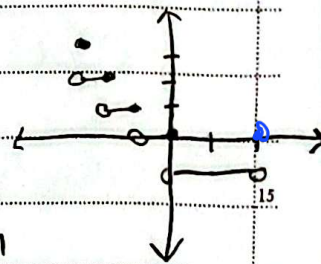
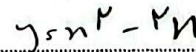
$$0 < \frac{n}{2} < 1 \rightarrow \left[\frac{n}{2} \right] = 0 \rightarrow y = n, 0 < n < 2$$



سوال (۸)



$$\begin{array}{r} 1 \\ - \frac{b}{ca} \end{array}$$



$$b = [a]_{\tau, \varepsilon}$$

سوال (4)

$$b - [a] = 1,8 \quad [b] = 9 \quad b = 9 + 0,8$$

$$\begin{array}{l} n + 0, \mu + y = \varepsilon, \mu \\ y + 0, \varepsilon - n \leq \mu, \varepsilon \end{array} \rightarrow \begin{cases} n + y = \varepsilon \\ y - n = \mu \end{cases}$$

$$xy = 4 \rightarrow y = \frac{4}{x}, \quad n=1$$

$$\Rightarrow a + b \leq \varepsilon/4$$

$$\hookrightarrow b = w, \varepsilon \in L, a \in 1, 2$$

$$(1+\sqrt{p})^4 + (1-\sqrt{p})^4 = 191 \rightarrow (1+\sqrt{p})^4 = 191 - (1-\sqrt{p})^4$$

(1-VI)

$$[(1+\sqrt{2})^4] - [191 - \underbrace{(1-\sqrt{2})^4}_{\approx 0}] \rightarrow [(1+\sqrt{2})^4] = 191$$

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 لے نہ توان اوج حاصلہ لوفتہ اریک سے سوا