

دب، رسته دارد.

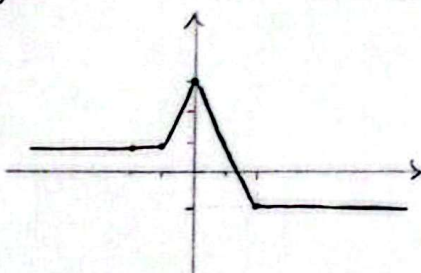
1

F

2

1

نہواہ دایسمی نسیم



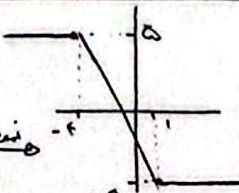
ناتیسہ ~ مقدار $\max$ بلیر ۳ مقدار $\min$ بلیر ۱ - می باسہ

$$\text{max} + \text{min} = 14 + (-1) = \boxed{13}$$

برخورد

$$\frac{-1}{r}n - k = \frac{-1}{r}n - 1 \quad \Bigg| \quad \frac{1}{r}n + k = \frac{1}{r}n - 1 \quad \Bigg| \quad \frac{1}{r}n + k = \frac{1}{r}n - 1$$

$\Rightarrow$ د تابع ۱. طول $n = -5$ متعلق هسونه.

الف) $f(n) = [1 - 2n - (n+4)]$  $\Rightarrow$ $\{ -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5 \}$

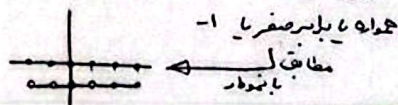
$|1-n| - (n+4) = |n-1| - (n+4)$

فردا

$\Rightarrow R = [-5, 5]$

برای برد تابع باید از این بزرگتر
باشد - نقطه شروع

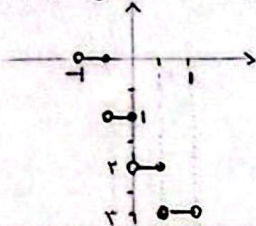
$\Rightarrow f(n) = \frac{1}{n} - \left[\frac{n+1}{n} \right] = \frac{1}{n} - \left[1 + \frac{1}{n} \right] = \frac{1}{n} - \left[\frac{1}{n} \right] - 1 \Rightarrow R_f = \{ -2, -1 \}$



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

$-1 < n < 0 \Rightarrow [-2n] = 1 \quad 0 < n < 1 \Rightarrow [-2n] = -1$

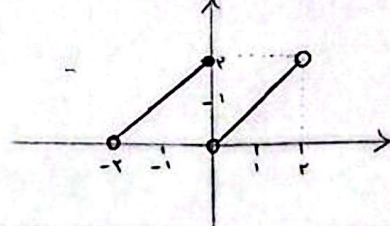
$0 < n < 1 \Rightarrow [-2n] = 0 \quad 1 < n < 2 \Rightarrow [-2n] = -2$



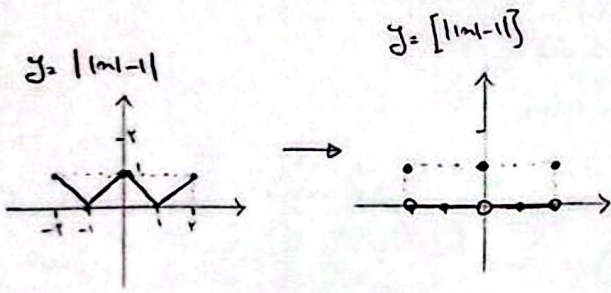
ب) $y = n - 2 \left[\frac{n}{2} \right] \quad n \in (-2, 2)$

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

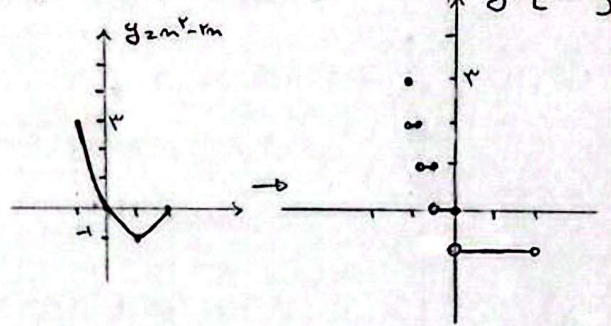
$0 < n < 2 \Rightarrow 0 < \frac{n}{2} < 1 \Rightarrow \left[\frac{n}{2} \right] = 0 \Rightarrow y = n$



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



$y = [n^2 - 2n] \quad n \in [-1, 2]$



$a + [b] = 4, 2 \Rightarrow$ چون $[b]$ صحیح است پس a کسری

$b - [a] = 2, 4 \Rightarrow$ چون $[a]$ صحیح است پس b کسری

$\Rightarrow \left. \begin{aligned} [a] + [b] &= 4 \\ [b] - [a] &= 2 \end{aligned} \right\} \Rightarrow 2[b] = 6 \Rightarrow [b] = 3 \Rightarrow a + 3 = 4, 2 \Rightarrow [a] = 1, 2$

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

$(1 + \sqrt{2})^4 + \frac{(1 - \sqrt{2})^4}{(\sqrt{2} - 1)^4} = 191$

$0 < \sqrt{2} - 1 < 1 \Rightarrow 0 < (\sqrt{2} - 1)^4 < 1 \Rightarrow (1 + \sqrt{2})^4 = 191 - (1 - \sqrt{2})^4$

$\Rightarrow 191 - 1 < (1 + \sqrt{2})^4 < 191 - 0 \Rightarrow 190 < (1 + \sqrt{2})^4 < 191$

$\Rightarrow [(1 + \sqrt{2})^4] = 190$