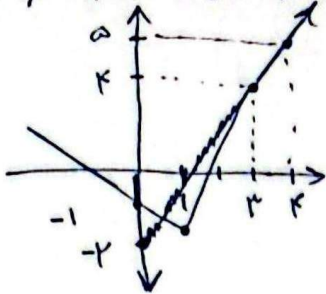
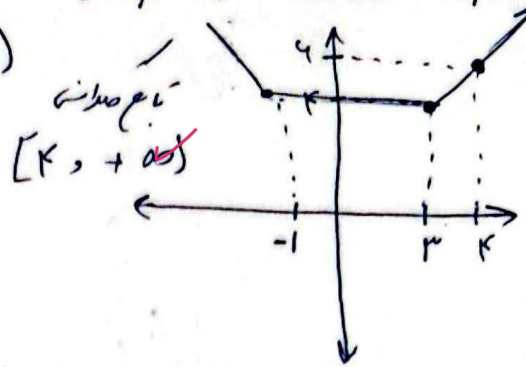


الف) $y = |2x-2| - |x-2|$



$R = [-2, +\infty)$

ب) $y = |x-2| + |x+1|$



٢

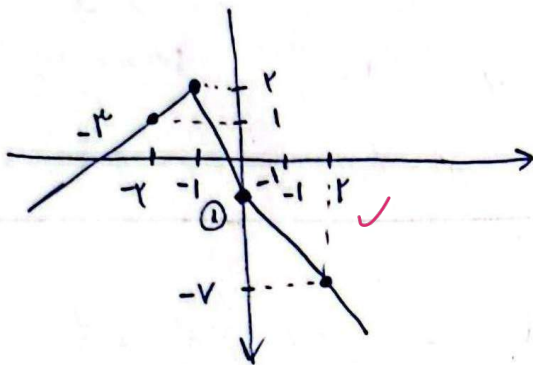
$|x-2| - |2x+2| \leq 1$

$|x-2| - |2x+2| - 1 \leq 0$

سم غدا

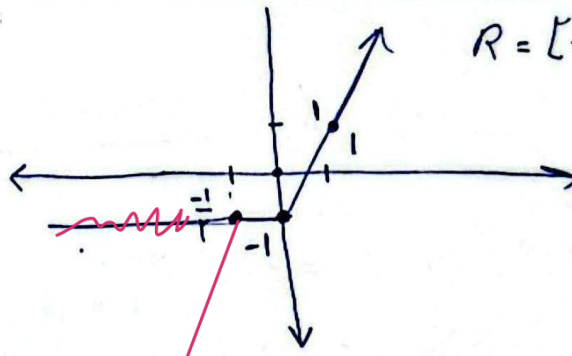
$R = (-\infty, -2] \cup [\frac{-1}{2}, +\infty)$

٢



① در اینجا: $2-x-2x-2 \leq 0 \rightarrow -4x \leq 0 \rightarrow x \geq 0$
 $-2x = +1 \rightarrow x = \frac{-1}{2}$

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



$R = [-1, +\infty)$

١

صفحه آفر...

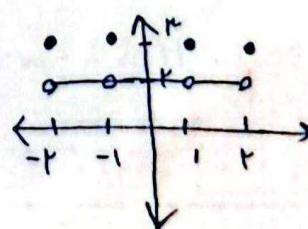
الف) $y = [x] + [2-x]$

$a \leq x < a+1 \rightarrow 2-a \leq 2-x < 3-a$

$[2-x] \leq 2-a \Rightarrow [x] + [2-x] = a + (2-a) = 2$

$x + 2 - x = 2$

$R = \{2\}$



$x \in \mathbb{Z}$

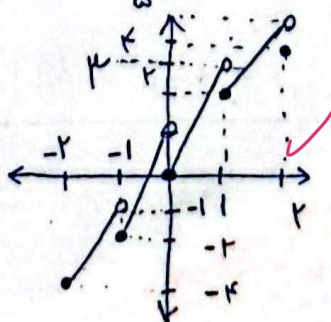
$\Rightarrow y = 2x - [x]$

$[-2, -1) \Rightarrow 2x+2$

$[-1, 0) \Rightarrow 2x+1$

$[0, 1) \Rightarrow 2x$

$[1, 2) \Rightarrow 2x-1$



$R = \mathbb{R}$

$D = \mathbb{R}$

$R_y = [-2, \infty) \leftarrow [-2, 2]$

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الف) $y = \sin^2 x - \sin x + 1$

(2) - 10

$$R = \left[\frac{\pi}{\pi}, \pi \right]$$

$-1 \leq \sin x \leq 1$

- $\sin x = 1 \quad y = 1$
- $\sin x = -1 \quad y = \pi$
- $\sin x = \frac{-b}{\pi a} = \frac{+1}{\pi} \quad y = \frac{\pi}{\pi}$

$\Rightarrow y = \sin^2 x + \sin^2 x + 1$

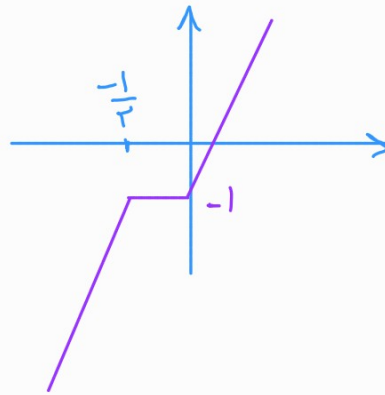
$0 \leq \sin^2 x \leq 1$

- $\sin x = 0 \quad y = 1$
- $\sin x = 1 \quad y = \pi$
- $\sin x = \frac{-1}{\pi} \quad y = \frac{\pi}{19}$

$$R = [1, \pi]$$

$\therefore y = |x| + \frac{1}{|x|} \xrightarrow[\alpha + \frac{1}{\alpha} \geq r]{\alpha > 0} |x| + \frac{1}{|x|} \geq r \rightarrow R_y = [r, +\infty)$
-1

$$y = \begin{cases} r_{n-1} & x \geq 0 \\ -1 & -\frac{1}{r} < x < 0 \\ r_{n+1} & x \leq -\frac{1}{r} \end{cases}$$



$R_y = \mathbb{R}$

-1