

$$x=1 \rightarrow 2f(x) = 3 + f(x) \rightarrow f(x) = 3$$

$$\rightarrow f(2x+1) + f(x+1) = 2x+3 \rightarrow \text{موجهی گوییم } f \text{ تابع حای است}$$

$$y = \sqrt{f(x) - x^2} = \sqrt{x - x^2}$$

$$\rightarrow x - x^2 \geq 0 \rightarrow R = (-\infty, \frac{1}{2}] \cup [0, 1] \leftarrow \text{جواب}$$

$$f(x) = \frac{x(x-2)(x+2)}{(x+2)} = x(x-2)$$

$x = -2$ جذب است و در دانه نیست

$$\rightarrow x^2 - 2x \neq 1 \rightarrow x^2 - 2x - 1 \neq 0 \rightarrow \begin{cases} x \neq -2 \\ x \neq 4 \end{cases} > a, b$$

$$R_{x(x-2)} \xrightarrow{\text{بترتیب دانه}} = [-1, +\infty) - \{1\} \Rightarrow f(\frac{x-2}{-2}) = +3 \leftarrow \text{جواب}$$

$$y = \sqrt[3]{(x-2)^3} = \sqrt[3]{x^3 - 4x^2 + 12x - 8} \rightarrow \begin{cases} a = -4 \\ b = 12 \end{cases}$$

$$\leftarrow \text{جواب } y = x-2 \text{ در دانه ی } [-4, 12] \rightarrow R = [-1, 1] \leftarrow \text{جواب}$$

$$\frac{x+1}{1-x} \geq 0 \rightarrow \frac{-1}{-1} + \frac{+1}{+1} \rightarrow D = [-1, 1] \leftarrow \text{جواب}$$

$$x^2 = 0 \rightarrow y_2 = \frac{-1}{b} = -1 \rightarrow b = 1$$

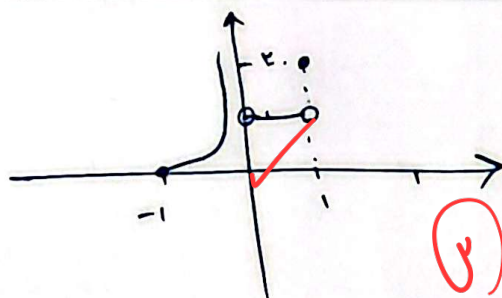
$$x^2 = +\infty \rightarrow y_2 = a = 1 \rightarrow a = 1$$

$a+b = 1+1 = 2$

$$-1 < x < 0 \rightarrow y = -\frac{1}{x} - 1$$

$$0 < x < 1 \rightarrow y = 1$$

$$x = 1 \rightarrow y = 2$$

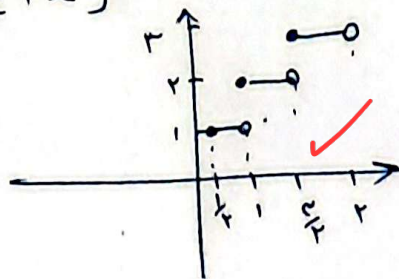


$$y = [x] + \left[x + \frac{1}{2}\right] = [2x]$$

$$\frac{1}{2} \leq x < 1 \rightarrow y = 1$$

$$1 \leq x < \frac{3}{2} \rightarrow y = 2$$

$$\frac{3}{2} \leq x < 2 \rightarrow y = 3$$



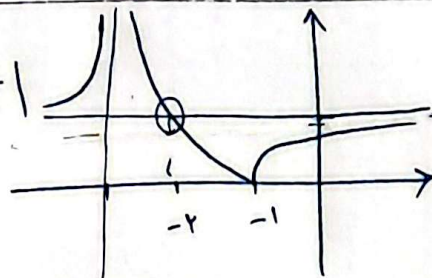
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تغییر شده است.

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$$3-a > \frac{1}{a} \Rightarrow a=1$$

$$\Rightarrow a=+1, b=-2 \rightarrow a-b=3$$



$$x=-2 \leftarrow \frac{x+1}{x+3} = -1 \leftarrow \left| \frac{x+1}{x+3} \right| = 1 \leftarrow \begin{matrix} x+1 < 0 \\ x+3 > 0 \end{matrix}$$

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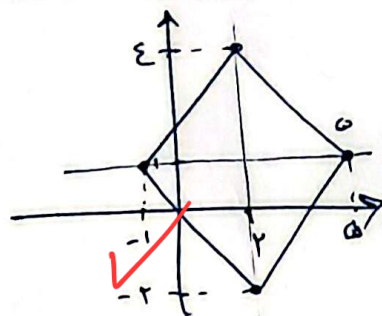
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$$x > 2, y > 1 \rightarrow -x + 4 = y$$

$$x < 2, y > 1 \rightarrow y = x + 2$$

$$x < 2, y < 1 \rightarrow y = -x$$

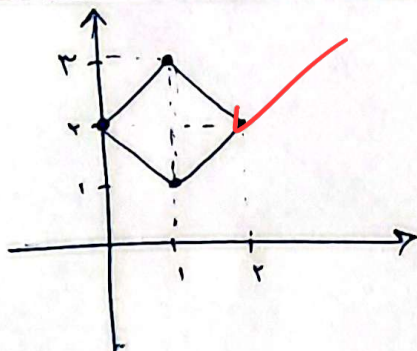
$$x > 2, y < 1 \rightarrow y = x - 2$$



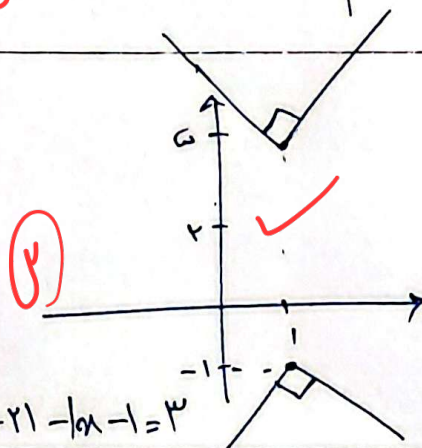
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$$y = 3x + |9x + b|$$

$$\rightarrow |3| > |a| \rightarrow 3 > |a| \rightarrow -3 < a < 3$$

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