

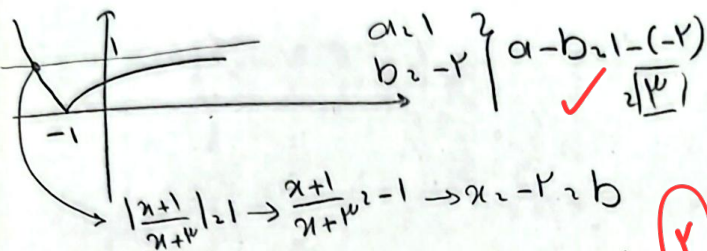
الف 2

$$x = 1/4 \rightarrow y = \{1\} \cup \{2\} = 1$$

$$x = 1 \rightarrow y = \{2\} \cup \{3\} = 2$$

$$x = 19/10 \rightarrow y = \{3\} \cup \{4\} = 3$$

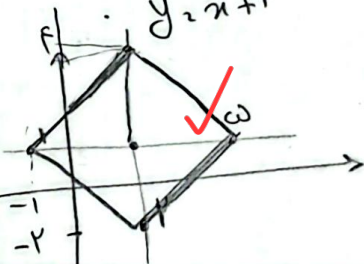
$$a \geq 1 \Rightarrow \left| \frac{x+1}{x+2} \right| \quad \frac{1}{a} \geq 1, 2-a > 0$$



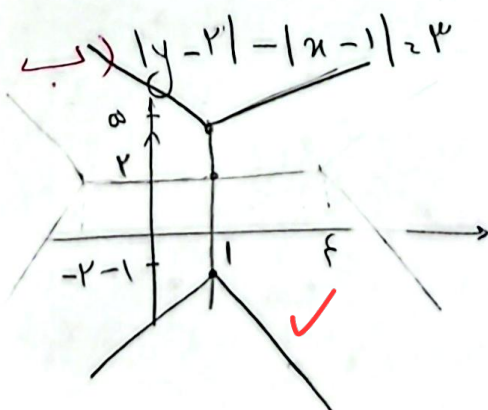
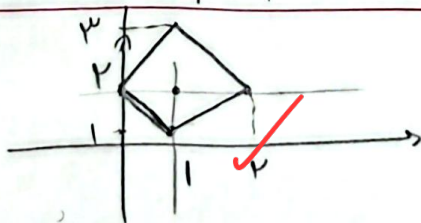
$$\begin{cases} a = 1 \\ b = -2 \end{cases} \Rightarrow a - b = 1 - (-2) = 3$$

الف 2

$$\begin{aligned} x - y + 1 &= 2 \Rightarrow y = x - 1 \\ x - y + 1 &= 2 \Rightarrow y = x - 1 \\ y &= x + 1 \end{aligned}$$



الف 2



الف 2

المعادلة - 1

الف 2

$$x \mapsto f(x) + f(x) = x + f(x) \rightarrow f(x) = x$$

$$y = ax + b \rightarrow y = ax + a + b + ax + a + b = 2ax + 2a + 2b$$

$$2ax + 2a + 2b = 2x + 2 \Rightarrow 2ax = 2x \rightarrow a = 1$$

$$2a + 2b = 2 \Rightarrow b = 0$$

$$\Rightarrow f(x) = x$$

$$y = \sqrt{-x^2 + x} \rightarrow \text{ext} \left| \frac{-1}{-2} \right| = \frac{1}{4}$$

$$-\frac{1}{4} + \frac{1}{4} = \frac{1}{4}$$

$$\Rightarrow \text{Def. } [0, 1/4]$$

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

$$\Rightarrow x^2 - 4x \neq 0 \rightarrow x^2 - 4x - 4 \neq 0 \rightarrow (x-4)(x+2) \neq 0$$

$$\Rightarrow \text{Def. } \mathbb{R} - \{-2, 4\}$$

$$x^2 - 4x \rightarrow \text{ext} \left| \frac{1}{-1} \right| \rightarrow \text{Def. } [-1, +\infty) - \{4\}$$

$$f\left(\frac{x-2}{x(-1)}\right) = -1 \rightarrow \frac{-1+x}{-1+x} = 1$$

$$y = \sqrt{(x-2)^2} = \sqrt{x^2 - 4x + 4} = \sqrt{x^2 - 4x + 4} \Rightarrow \text{Def. } [-4, 4]$$

$$y = x - 2 \rightarrow \text{Def. } [-4, 4] \Rightarrow \text{Def. } [-1, 0]$$

$$\frac{x+1}{1-x} \geq 0 \rightarrow \frac{-1}{-1+\frac{1}{x}} \rightarrow \text{Def. } [-1, 1)$$

$$y = \frac{ax^2 - 1}{x^2 + b} \rightarrow x^2 = 0 \rightarrow \frac{1}{b} = -1 \rightarrow b = -1$$

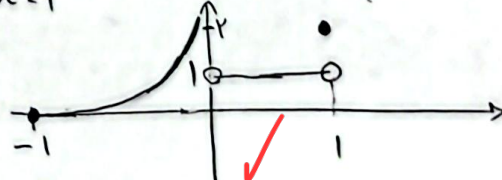
$$\Rightarrow x^2 = 0 \rightarrow a = 1$$

$$\Rightarrow a + b = 0$$

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

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

$$x = 1$$



۱۵- α باید عددی بین -3 تا 3 باشد تا دایره معواره

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

تغییری شود و دایره معواره صعود کند تا به P برسد و در غیر این صورت یک خط با شیب مثبت به ما می دهد و یک خط با شیب منفی که در P برده می شود.

$$\Rightarrow \alpha \in (-3, 3)$$

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