

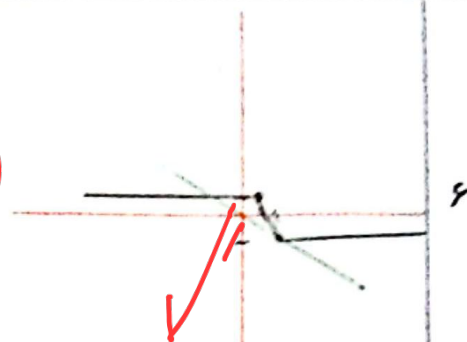
$$|x-2| - |x-1| = kx$$

$$(2, -1), (1, 1)$$

$$(x_1-1), (0,0) \rightarrow kx=y \rightarrow 2k=-1$$

$$k = -\frac{1}{2}$$

2



$$\text{الف) } x[x]$$

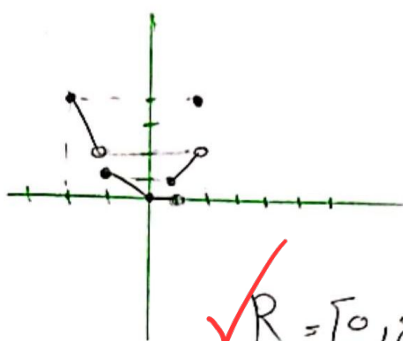
$$x \rightarrow \varepsilon$$

$$[1, 2] \rightarrow x$$

$$[0, 1] \rightarrow 0$$

$$[-1, 0] \rightarrow -x$$

$$[-2, -1] \rightarrow -x$$



$$R = [0, \varepsilon]$$

$$\text{ب) } x|x| - x$$

$$x \geq 0 \rightarrow x^2 - x = (\frac{1}{2} - \frac{1}{2})$$

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

$$R_f = [-2, 2]$$

1, 0, 0

$$R = \mathbb{R}$$

$$\text{رشته های منتهی به } 9-13$$

$$\frac{x+1}{x^2+x} + \frac{x}{1-x} + \frac{1}{x^2-x}$$

$$= \frac{x^2+x}{x^2+x} + \frac{x}{1-x} + \frac{1}{x^2-x}$$

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$$x = \mathbb{R} - \{0, -x\}$$

$$a+b = -2$$



2

$$\frac{x - \varepsilon\sqrt{x} + x^2}{x - \sqrt{x} + 1} = y \rightarrow \sqrt{x} = t \rightarrow \frac{t^2 - \varepsilon t + x}{t^2 - t + 1} = y \rightarrow t^2 - \varepsilon t + x = y(t^2 - t + 1)$$

$$t^2(1-y) + t(\varepsilon y - \varepsilon) + (x-y)(\sqrt{x}-1)^2 \geq 0$$

$$\varepsilon y^2 + 14 - 14y + y^2 + x - \varepsilon y \geq 0$$

$$R = [0, \sqrt{2-\frac{\varepsilon}{a}}] \cup [\sqrt{2+\frac{\varepsilon}{a}}, +\infty)$$

$$\frac{x^2 + 2x^2 - x - 2}{x^2 - 1} = \frac{(x+1)(x+1)(x-2)}{x^2 - 1} = x + 2 \rightarrow \mathbb{R}$$

$$\pm 1 \rightarrow \text{رشته های منتهی به } 1, 3$$

$$R = \mathbb{R} - \{2, 1\}$$

$$x+1 = \varepsilon$$

$$R = \mathbb{R} - \{2, 1\}$$