

$$A \times B = \{(1,1)(1,3)(2,2)(2,3)(3,3)(3,2)(2,1)(1,2)\}$$

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$$B^2 = \{(2,2)(2,2)(3,2)(3,2)\} \quad A \times B - B^2 = \{(1,2)(1,3)\}$$

$$f(x) = \{(x, x^2)(x, 1)(x, x)(-x, x)(x, x+1)(x, x)\} \quad m = -1$$

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$$m^2 = m+1$$

$$m^2 - m - 1 = 0 \rightarrow \begin{cases} -1 \\ 2 \end{cases} \text{ غلط و غلط}$$

$$g(x) = \{(x, x^2)(x, 1)(x, x)(x, x+1)(-x, x)(-1, x)\}$$

$$m^2 = m+1$$

$$m^2 - m - 1 = 0 \rightarrow \begin{cases} -1 \\ 2 \end{cases} \text{ غلط و غلط}$$

$$f(x) = \begin{cases} x^2 - 1 & x < 1 \\ ax + b & 1 \leq x \leq 2 \\ x^2 & x > 2 \end{cases}$$

$$1^2 - 1 = a + b$$

$$\Rightarrow a + b = 0$$

$$2^2 = 1 = 2a + b$$

$$\begin{cases} a + b = 1 \\ a + b = 0 \end{cases}$$

$$1 \times -1 = -1$$

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$$a = 1$$

$$b = -1$$

$$f(x) = \begin{cases} x^2 - k & x \geq k \\ k - x^2 & x \leq k \end{cases}$$

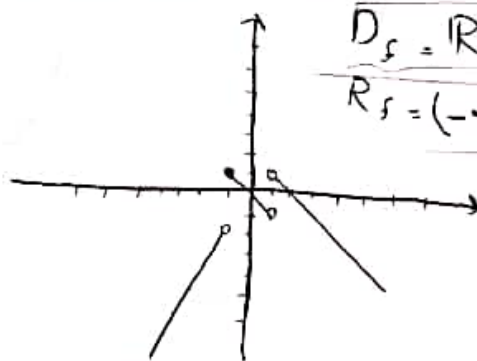
$$k^2 - k = k - k^2$$

$$\Delta k = 0$$

$$k = \frac{0}{0}$$

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$$f(x) = \begin{cases} -x+1 & x > 1 \\ -x & -1 \leq x \leq 1 \\ x-1 & x < -1 \end{cases}$$



$$D_f = \mathbb{R} - \{1\}$$

$$R_f = (-\infty, 1] - \{-1\}$$

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$$x^2 y^2 + x^2 + 1 = 0 \quad \text{تابسته}$$

$$x^2 y^2 = -x^2 - 1$$

$$\begin{cases} x^2 y_1^2 = -x^2 - 1 \\ x^2 y_2^2 = -x^2 - 1 \end{cases} \rightarrow \begin{cases} x^2 y_1^2 = x^2 y_2^2 \\ x^2 y_1^2 = x^2 y_2^2 \end{cases} \rightarrow y_1 = y_2 \checkmark$$

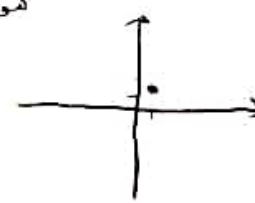
$$x^2 y^2 + x^2 - 12y + 10 = 0$$

$$(x^2 y^2) + (x^2 - 12y + 10) = 0$$

هواره شیب هواره شیب

$$y = \frac{x}{2} \quad x = 1$$

نقطه



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الف) $x \sin y = y \sin x$ ✗

و در نقاط مشخصه و ...
باشد برنام نیست

ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$ ✓

- V

$\frac{x}{y} + \frac{y}{x} = 2 \Rightarrow \sqrt{\frac{x}{y}} = \sqrt{\frac{y}{x}}$

$\frac{x^2 + y^2}{xy} = 2 \Rightarrow x^2 + y^2 = 2xy$

$x^2 + y^2 - 2xy = 0$

$(x - y)^2 = 0$

$\Rightarrow x = y \rightarrow$ تابع های

الف) $y = \sqrt{\frac{x-1}{x-2}} + \sqrt{\frac{x-2}{x-1}}$

- A

$\frac{1}{x-1} + \frac{1}{x-2} \rightarrow (0, 1]$

ب) $\sqrt{x} + \sqrt{y-1} = \sqrt{4} \rightarrow D_f = [0, +\infty)$

الف) $y = \frac{\sqrt{x^2 - \sqrt{2} + y}}{\sqrt{x^2 - 1.2 + 1.2}}$ $\rightarrow$ $\frac{1}{x-1} + \frac{1}{x-2} \rightarrow D_f = (-\infty, 1]$

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ب) $\sqrt{\frac{x^2 - \sqrt{2} + y}{x^2 - 1.2 + 1.2}} \rightarrow \frac{1}{x-1} + \frac{1}{x-2} \rightarrow (-\infty, 1] \cup (2, +\infty)$

الف) $y = \frac{\sqrt{x^2 - \sqrt{2} + y}}{\sqrt{x^2 - 1.2 + 1.2}} \rightarrow -1, -\frac{1}{2}$ $\rightarrow \frac{1}{x-1} + \frac{1}{x-2} \rightarrow$

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

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

ب) $y = \sqrt{\frac{x^2 - \sqrt{2} + y}{x^2 - 1.2 + 1.2}} \rightarrow -1, -\frac{1}{2}$ $\rightarrow \frac{1}{x-1} + \frac{1}{x-2} \rightarrow$

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