

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

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

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

$$m^2 = m + 2 \quad m = -1$$

$$m^2 - m - 2 = 0$$

$$m = -1$$

$$m = 2 \text{ غرر } (2, 1)(2, 4)$$

ب) $m^2 = m + 2$ به ازای هیچ مقدار m

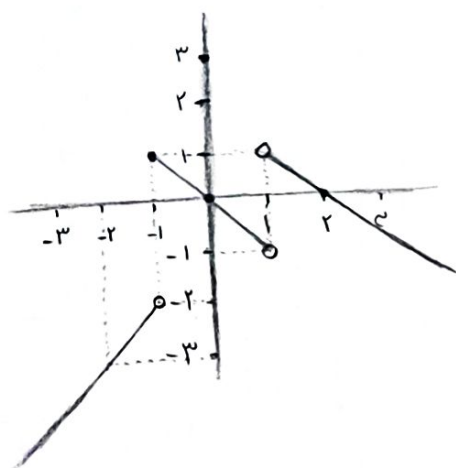
$$m = -1 \text{ غرر}$$

$$m = 2 \text{ غرر}$$

$$\left. \begin{aligned} f(1) &= 1^2 - 1 = 0 = a + b \\ f(2) &= 2^2 = 4 = 2a + b \end{aligned} \right\} \begin{aligned} a &= 1 \\ b &= -1 \end{aligned} \quad a \times b = -1$$

$$2K - C = 4 - C K$$

$$K = \frac{V}{A}$$



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

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

الف) $2y_1^2 + x^2 + 1 = 0$ $xy_1^2 = xy_2^2$ تابع است
 $2y_2^2 + x^2 + 1 = 0$ $y_1 = y_2$

ب) $(x-1)^2 + (2y-3)^2 = 0$ تابع است
 $x=1$ $y=\frac{3}{2}$



الف) $x=0 \Rightarrow 0 \times \sin y = y \times \sin 0 \quad y \in \mathbb{R}$ تابع نیست

ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} - 2 = 0$ تابع است

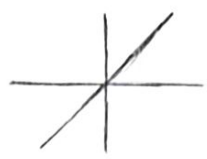
$(\sqrt[4]{\frac{x}{y}} - \sqrt[4]{\frac{y}{x}})^2 = 0 \quad \sqrt[4]{\frac{x}{y}} = \sqrt[4]{\frac{y}{x}}$ تابع است $x=y$

$\frac{x}{y} = \frac{y}{x}$

$x^2 = y^2$

$x = y \checkmark$

$x = -y$ غلط $\rightarrow \frac{x}{y} = \frac{-y}{y} = -1 \rightarrow$ زیرادینکال
معنی است پس تعریف نمی شود



الف) $\frac{x-1}{x-2} \geq 0$ $\frac{1}{+} - \frac{1}{-} +$ $\frac{0}{-} + \frac{2}{-}$ $D_f = (0, 1]$
 $\frac{x-2}{x} \geq 0$ $x > 2 \quad x \leq 1$ $0 < x \leq 2$

ب) $x \geq 0$ $\sqrt{2} - \sqrt{x} \geq 0$ $D_f = [0, 2]$
 $\sqrt{2} \geq \sqrt{x}$
 $2 \geq x$

الف) $\frac{1}{+} - \frac{7}{-} +$ $\frac{2}{+} - \frac{8}{-} +$ $D_f = (-\infty, 1] \cup (8, +\infty)$
 $x^2 - 7x + 7 \geq 0$ $x^2 - 10x + 17 \geq 0$
 $x=7 \quad x=1$ $(x-2)(x-8) \geq 0$
 $x \leq 1 \quad x \geq 7$ $x < 2 \quad x > 8$

ب) $\frac{x^2 - 7x + 7}{x^2 - 10x + 17} \geq 0$ $\frac{1}{+} - \frac{7}{-} + \frac{1}{+} - \frac{17}{-} +$ $D_f = (-\infty, 1] \cup (2, 7] \cup (8, +\infty)$

الف) $2x^2 - 5x + 2 \geq 0$ $\frac{1}{+} - \frac{5}{-} +$ $2x^2 - 5x + 2 \geq 0$ $\frac{1}{+} - \frac{2}{-} +$
 $x=1 \quad x=\frac{2}{5}$ $x=1 \quad x=\frac{5}{2}$
 $D_f = (-\infty, 1) \cup [\frac{5}{2}, +\infty)$

ب) $\frac{2x^2 - 5x + 2}{2x^2 - 7x + 2} \geq 0$ $\frac{1}{+} - \frac{5}{-} + \frac{2}{-} - \frac{7}{+} +$ $D_f = ((-\infty, \frac{5}{2}) - \{1\}) \cup [\frac{2}{5}, +\infty)$