

$$(A-B) \cap B$$

$$\{1\} \cap \{2,3\} \Rightarrow \{(1,2), (1,3)\}$$

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$$m^2 \leq m+2 \quad m^2 - m - 2 \geq 0$$

$$(m+1)(m-2) \leq 0 \Rightarrow \begin{cases} m \leq -1 \\ m \geq 2 \end{cases}$$

عقده

کتابچه نیست

(الف)

$$m^2 \leq m+2 \quad m^2 - m - 2 \geq 0$$

$$(m-2)(m+1) \leq 0 \Rightarrow \begin{cases} m \leq -1 \\ m \geq 2 \end{cases}$$

عقده

$m = -1$ ✓

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$$f(1) = 1 - 1 = 0 = a + b$$

$$f(2) = (2)^2 = 4 = 2a + b \Rightarrow \begin{cases} a = 1 \\ b = -1 \end{cases}$$

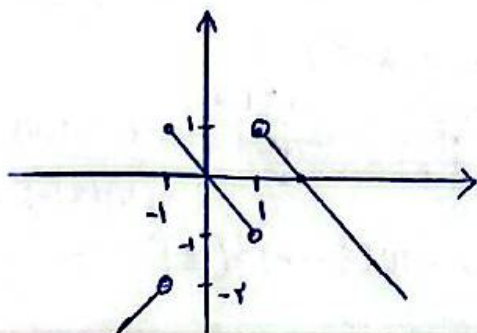
$$ab = -1$$

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$$f(k) = 2k - 3 = 1 - 2k$$

$$2k = 4 \Rightarrow k = \frac{4}{2}$$

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

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

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$\begin{cases} y^2 - 12y = -x^2 + 2x - 10 \\ y_1^2 - 12y_1 = -x_1^2 + 2x_1 - 10 \\ y_2^2 - 12y_2 = -x_2^2 + 2x_2 - 10 \end{cases}$ $\Rightarrow y_1^2 - 12y_1 = y_2^2 - 12y_2$ $(y_1 + y_2)(y_1 - y_2) = (x_1 - x_2)(y_1 - y_2)$ $\Rightarrow y_1 + y_2 = x_1 - x_2$	$y^2 = \frac{-x^2 - 1}{1}$ $\begin{cases} y_1^2 = \frac{-x_1^2 - 1}{1} \\ y_2^2 = \frac{-x_2^2 - 1}{1} \end{cases} \Rightarrow y_1 = y_2$ $y_1 = y_2 \checkmark$	الف) ۶
$\left(\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}}\right)^2 = 4$ $\frac{x^2 + y^2}{xy} + 2 = 4$ $\Rightarrow x^2 + y^2 = 2xy \Rightarrow (x - y)^2 = 0 \Rightarrow x = y \checkmark$	$x \leq 0$ $\Downarrow$ $0 < \sin y = y \leq \sin 0$ $\Downarrow$ $y \text{ و } 0 \text{ برابری}$ $\text{مربعاتی اختیار کند}$	الف) مثال نقض ۷
$x \geq 0$ $D_f = [0, 3]$	$\sqrt{\frac{x-1}{x-3}} + \sqrt{\frac{x-3}{x-1}}$ $\begin{matrix} \downarrow & \downarrow \\ + & - \\ \downarrow & \downarrow \\ 0 & 0 \end{matrix}$ $\mathbb{R} - ([1, 3] \cap (0, 2]) = (0, 1)$	الف) ۸
$\sqrt{\frac{(x-2)(x-1)}{(x-2)(x-1)}}$ $D_f = (-\infty, 1] \cup (2, 4) \cup (19, +\infty)$	$\sqrt{\frac{(x-2)(x-1)}{(x-2)(x-1)}}$ $D_f = \mathbb{R} - ([1, 2] \cup [4, 19])$	الف) ۹
$\sqrt{\frac{(x-1)(x-\frac{1}{2})}{(x-1)(x-\frac{1}{2})}}$ $D_f = \mathbb{R} - [\frac{1}{2}, \frac{1}{2}] - \{1\}$	$\sqrt{\frac{(x-1)(x-\frac{1}{2})}{(x-1)(x-\frac{1}{2})}}$ $\Rightarrow (-\infty, 1] \cup [\frac{1}{2}, +\infty)$ $(I) \cap (II) = \mathbb{R} - [\frac{1}{2}, \frac{1}{2}]$ $(-\infty, 1] \cup (\frac{1}{2}, +\infty) = (II)$	الف) (I) (II) ۱۰