

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره! کلاس: یازدهم ریاضی A

$$A = \{1, 2, 3\} \quad B = \{2, 3\}$$

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

$$B^c = \{(2, 2), (2, 3), (3, 2), (3, 3)\}$$

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

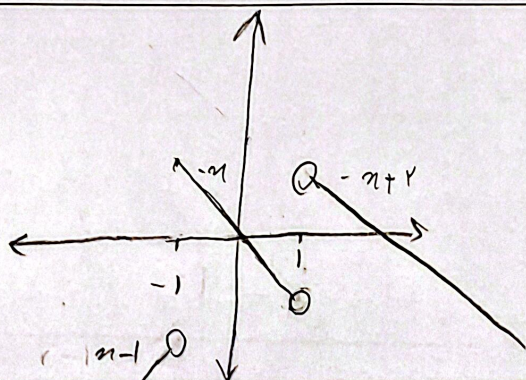
الف) $m^2 = m + 2 \rightarrow m = -1 \text{ یا } 2 \rightarrow m \neq 2 \rightarrow \boxed{m = -1}$

ب) $m^2 = m + 2 \rightarrow m = -1 \text{ یا } 2 \rightarrow m \neq -1 \text{ و } m \neq 2 \rightarrow m \in \emptyset$

$$f(n) = \begin{cases} n^2 - 1 & n \leq 1 \\ an + b & 1 \leq n \leq 2 \\ n^3 & n \geq 2 \end{cases}$$

$$\begin{aligned} a \times b &= ? \\ 0 &= a + b \\ n=1 &\rightarrow \cancel{a} - 1 = \cancel{a} + \cancel{b} \\ n=2 &\rightarrow \cancel{a} = \cancel{a} + \cancel{b} \\ &\quad \wedge = 2a + b \\ a &= 1 \text{ و } b = -1 \\ \boxed{a \times b} &= \boxed{-1} \end{aligned}$$

$$2n - 3 = f(2n) \rightarrow \Delta n = 7 \rightarrow n = \left(\frac{7}{\Delta}\right) = K$$



$$D_f = (-\infty, 1) \cup (1, +\infty) = \mathbb{R} - \{1\}$$

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

$$\text{الف) } f: \mathbb{R}^2 \rightarrow \mathbb{R}^2, f(x, y) = (x^2 + y^2 + 1, x^2 - y^2) \\ \Rightarrow f(x_1, y_1) = f(x_2, y_2) \Rightarrow x_1^2 + y_1^2 + 1 = x_2^2 + y_2^2 + 1 \Rightarrow x_1^2 + y_1^2 = x_2^2 + y_2^2$$

$$\text{ب) } f: \mathbb{R}^2 \rightarrow \mathbb{R}^2, f(x, y) = (x^2 + y^2 + 1, x^2 - y^2) \\ \Delta = 0, 0 > 0 \Rightarrow \text{فقط یک نقطه} \quad \Delta = 0, 0 < 0 \Rightarrow \text{دو نقطه}$$

$$\text{الف) } \sin y = y \sin x, x=0 \Rightarrow y \in \mathbb{R} \Rightarrow X = \mathbb{R}$$

$$\text{ب) } \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \Rightarrow f = \frac{x}{y} + 2\sqrt{1} + \frac{y}{x} \\ \Rightarrow \frac{x}{y} + \frac{y}{x} = 2 \Rightarrow \frac{x^2 + y^2}{xy} = 2 \Rightarrow x^2 - 2xy + y^2 = 0 \Rightarrow (x-y)^2 = 0 \Rightarrow x=y$$

$$\text{الف) } \frac{x-1}{x-2} > 0, \frac{1-x}{x} > 0 \Rightarrow D_f = \mathbb{R} - [0, 2] \\ R = (1, 2) \quad R = [0, 1)$$

$$\text{ب) } \sqrt{x-1} = -\sqrt{x-1} \Rightarrow x-1 \leq 0 \Rightarrow x \leq 1$$

$$\text{الف) } \sqrt{x^2 - 5x + 4} \rightarrow 1, 4 \quad \frac{1}{x-1} \rightarrow 1, 4 \quad (-\infty, 1] \cup (4, +\infty)$$

$$\text{ب) } \sqrt{x^2 - 5x + 4} \rightarrow 1, 4 \quad D_f = (-\infty, 1] \cup (4, +\infty) \cup (1, 4)$$

$$\text{الف) } \sqrt{x^2 - 5x + 4} \rightarrow R - (1, \frac{5}{4}) \quad \sqrt{3x^2 - 5x + 4} \rightarrow R - [\frac{4}{3}, \frac{5}{4}] \Rightarrow R - [\frac{4}{3}, \frac{5}{4}]$$

$$\text{ب) } \sqrt{x^2 - 5x + 4} \rightarrow 1, \frac{5}{4} \quad D_f = (-\infty, 1) \cup (1, \frac{5}{4}) \cup [\frac{5}{4}, +\infty)$$