

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

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

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

الف) $m^2 = m + 2 \quad m^2 - m - 2 = 0 \quad (m-2)(m+1) = 0 \quad m = 2, -1$

۲ غرض $\rightarrow (2, 2), (2, 1) \quad || m = -1 ||$

ب) $m^2 = m + 2 \Rightarrow m = 2, -1 \quad (-1, 2), (1, 2) \quad \times$ غرض ۱

$\Rightarrow m = 2 \Rightarrow (2, 2), (2, 1) \quad \times$ به ازای هیچ m تابع نیست

۱ تابع به ازای $n=1 \Rightarrow n^2 - 1 = a + b = 0$

۲ تابع به ازای $n=2 \Rightarrow n^2 = 2a + b = 1$

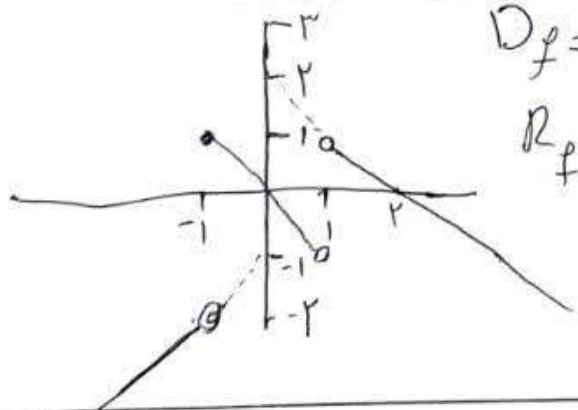
$a \times b = 1 \times -1 = -1$

$$\begin{cases} 2a + b = 1 \\ a + b = 0 \end{cases}$$

$a = 1, b = -1$

هر دو ضلع باید به ازای K یک عدد صحیح باشند $n=k \quad 2k-2 = 1-3k$

$5k = 3 \Rightarrow k = \frac{3}{5} = 1.4$



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

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

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

الف) $2y^2 = -n^2 - 1$ $2y_1^2 = -n_1^2 - 1$ $n_1 = n_2 \Rightarrow y_1 = y_2$
 $\Rightarrow 2y_1^2 = 2y_2^2 \Rightarrow y_1 = y_2 \Rightarrow$ ~~مطلوب~~

ب) $n^2 + 2y^2 - 2n - 12y + 10 = 0 \Rightarrow (n-1)^2 + (2y-3)^2 = 0 \Rightarrow$
 $\{n=1, y=\frac{3}{2}\} \Rightarrow$ ~~مطلوب~~

الف) $n=0$ یا $y=0 \Rightarrow 0 \times \sin y = 0 \Rightarrow$ ~~مطلوب~~
 $y \sin y = 0 \Rightarrow$ ~~مطلوب~~

ب) $\sqrt{\frac{n}{y}} + \sqrt{\frac{y}{n}} = 2 \Rightarrow \frac{n}{y} + \frac{y}{n} + 2 = 4 \Rightarrow \frac{n}{y} + \frac{y}{n} = 2$
 $\Rightarrow \frac{n^2 + y^2}{ny} = 2 \Rightarrow n^2 + y^2 = 2ny \Rightarrow (n-y)^2 = 0 \Rightarrow$
 $n=y \Rightarrow$ ~~مطلوب~~

الف) $\frac{n-1}{n-2} \geq 0, \frac{2-n}{n} \geq 0$ $D_f = [0, 1] \cup (2, +\infty)$
 $D_f = [0, 1]$

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

الف) $\frac{\sqrt{(n-1)(n-2)}}{\sqrt{(n-2)(n-1)}} \geq 0 \Rightarrow (n-1)(n-2) \geq 0$ $D_f = (-\infty, 1] \cup [2, +\infty)$
 $D_f = (-\infty, 1] \cup (2, +\infty)$

ب) $\frac{\sqrt{(n-1)(n-2)}}{\sqrt{(n-2)(n-1)}} \geq 0 \Rightarrow (n-1)(n-2) \geq 0$ $D_f = (-\infty, 1] \cup (2, 4) \cup (4, +\infty)$

الف) $\frac{\sqrt{(n-1)(2n-3)}}{\sqrt{(n-1)(2n-3)}} \geq 0 \Rightarrow (n-1)(2n-3) \geq 0$ $D_f = (-\infty, 1] \cup [\frac{3}{2}, +\infty)$
 $D_f = (-\infty, 1) \cup (\frac{3}{2}, +\infty)$

ب) $\frac{\sqrt{(n-1)(2n-3)}}{\sqrt{(n-1)(2n-3)}} \geq 0 \Rightarrow (n-1)(2n-3) \geq 0$ $D_f = (-\infty, 1) \cup (1, \frac{3}{2}) \cup [\frac{3}{2}, +\infty)$

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