

واقع عکس بنویس

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

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

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

✓

الف) $n^2 = n+2 \Rightarrow n^2 - n - 2 = 0$
 $(n-2)(n+1) = 0$
 $n = -1$

$$f(n) = \{(3,1), (2,1), (-2,-1), (-2,-1), (3,1), (-1,4)\}$$

✓

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ب) $n^2 = n+2 \Rightarrow n^2 - n - 2 = 0$
 $(n-2)(n+1) = 0$
 $n = 2, n = -1$

$$g(n) = \{(3,4), (2,1), (2,4), (3,4), (-1,4)\}$$

این عبارت به ازای هیچ مقادیر

ع.ت نیست

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

$n=1 \Rightarrow 1-1 = a+b$
 $a+b=0$

$n=2 \Rightarrow 1 = 2a+b$

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

$$\begin{aligned} a &= 1 \\ b &= -1 \end{aligned}$$

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

✓

2

$$f(n) = \begin{cases} 2n-2 & ; n \geq 2 \\ 4-2n & ; n \leq 2 \end{cases}$$

$n=k \Rightarrow 2k-2 = 4-2k$

$2k = 6$

$k = \frac{6}{2} = 3$

✓

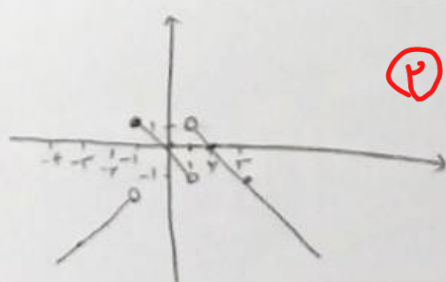
2

$$f(n) = \begin{cases} -n^2 & ; n > 1 \\ -n & ; -1 \leq n \leq 1 \\ n-1 & ; n \leq -1 \end{cases}$$

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

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

✓



2

الف) $y'' + m^2 y + 1 = 0$ $y'' = -m^2 y - 1$ $y'' = -m^2 y - 1$ $x y' = x y''$ $y_1 = y_2 \checkmark$	ب) $m^2 y'' - 2m - 12y + 10 = 0$ $m^2 - 2m + 1 + 12y - 12y + 1 = 0$ (۲) $(m-1)^2 + (y-1)^2 = 0$ $\left. \begin{matrix} m=1 \\ y=1 \end{matrix} \right\} \Rightarrow \left \begin{matrix} 1 \\ 1 \end{matrix} \right \checkmark$
الف) $x \sin y = y \sin x$ $m \Rightarrow \rightarrow x \sin y = y \sin x$ محل تقاطع نقطه‌ای y و m که در مقدار دارند به یک $\checkmark$	ب) $\sqrt{\frac{m}{y}} + \sqrt{\frac{y}{m}} = 2$ (۱) $\frac{m}{y} + \frac{y}{m} + 2\sqrt{\frac{y}{m} \cdot \frac{m}{y}} = 4$ (۱, ۷۵) $\frac{m}{y} + \frac{y}{m} = 2 \rightarrow (m-y)^2 = 0$ $\left(\begin{matrix} 1 \\ 1 \end{matrix} \right) \rightarrow$ به ازای $x=y$ تابع است
الف) $y = \sqrt{\frac{m-1}{m-2}} + \sqrt{\frac{2-m}{m}}$ $\frac{1}{+ \frac{1}{2} - \frac{1}{2} +}$ $(-\infty, 1) \cup (2, +\infty)$ $D_f = (0, 1] \checkmark$	ب) $\sqrt{m} + \sqrt{y-1} = \sqrt{2}$ $\sqrt{y-1} = \sqrt{2} - \sqrt{m}$ $\boxed{m \geq 0}$ $y-1 \geq 0 \rightarrow \boxed{y \geq 1}$ (۲) $\sqrt{2} - \sqrt{m} \geq 0 \rightarrow \sqrt{2} \geq \sqrt{m} \rightarrow \boxed{2 \geq m}$ $D_f: [0, 2]$ $\checkmark$
الف) $\sqrt{m^2 - 6m + 4}$ $D = (-\infty, 1]$ $\sqrt{m^2 - 6m + 4} = -9m + 14$ $(m-1)(m-4) \geq 0$ $(-\infty, 1] \cup [4, +\infty)$ (A) $\checkmark$ $(m-2)(m-1) > 0$ $-9m + 14 > 0 \rightarrow m < \frac{14}{9}$ $(\frac{14}{9}, 2) \cup (1, +\infty)$ (B) $(A) \cap (B) \Rightarrow (-\infty, 2) \cup (1, +\infty)$	ب) $\sqrt{\frac{m^2 - 6m + 4}{m^2 - 6m + 14}}$ (۱, ۲۵) $\frac{(m-2)(m-1)}{(m-2)(m-1)} > 0$ $\frac{1}{+ \frac{1}{2} - \frac{1}{2} +}$ $(-\infty, 1] \cup (2, 2] \cup (1, +\infty) \checkmark$
الف) $\sqrt{4m^2 - 8m + 4}$ $\sqrt{4m^2 - 8m + 4}$ $(m-1)(4m-2) \geq 0$ $(-\infty, 1] \cup [\frac{1}{2}, +\infty)$ (I) $(m-1)(2m-1) \geq 0$ $(-\infty, 1) \cup (\frac{1}{2}, +\infty)$ (II) $(I) \cap (II) \Rightarrow (-\infty, 1) \cup [\frac{1}{2}, +\infty) \checkmark$	ب) $\sqrt{\frac{4m^2 - 8m + 4}{4m^2 - 8m + 4}}$ (۲) $\frac{1}{+ \frac{1}{2} + \frac{1}{2} - \frac{1}{2} +}$ $(-\infty, \frac{1}{2}) - \{1\} \cup [\frac{1}{2}, +\infty) \checkmark$