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نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره کلاس:

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

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

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

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

$m = -1$ ✓
 $m = 2$ ✗

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

$m = -1$ ✗
 $m = 2$ ✗

نمونه‌ای صحیح می‌باشد

$n=1 \rightarrow x^2 - 1 = ax + b \rightarrow 0 = a + b \rightarrow a + b = 0$

$n=2 \rightarrow ax + b = x^3 \rightarrow 2a + b = 1$

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

$a = 1$
 $b = -1$

$axb = -4 \times 2$

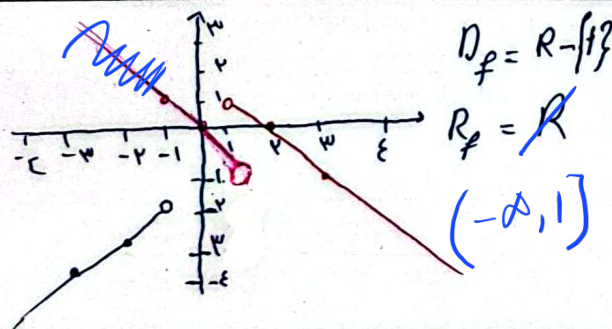
$n=k \rightarrow 2n - 3 = 5 - 3n \rightarrow 2k - 3 = 5 - 3k \rightarrow 5k = 8$

$k = \frac{8}{5}$

$-x+2; x \geq 1$

$-x; -1 \leq x < 1$

$x-1; x < -1$



الف) $y^p + x^p + 1 = 0 \xrightarrow{x=0} y^p = -1 \rightarrow y = \sqrt[p]{-1} \rightarrow y = \sqrt[p]{-1} \checkmark$

$\rightarrow x^p + y^p - px - py + 1 = 0 \rightarrow (y^p - py + 1) + (x^p - px + 1) = 0 \rightarrow (y-1)^p + (x-1)^p = 0$
 $\checkmark$ $(1, \frac{p}{p})$ $y=1 \rightarrow y = \frac{p}{p}$ $x=1$

الف) $x \sin y = y \sin x \xrightarrow{y=0} 0 \sin y = y \sin 0 \rightarrow 0 \sin y = 0$ $\checkmark$

ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \Rightarrow \sqrt{\frac{x}{y}} = t \rightarrow t + \frac{1}{t} = 2 \xrightarrow{t^2-2t+1=0} (t-1)^2 = 0 \rightarrow t=1$
 $\sqrt{\frac{x}{y}} = 1 \rightarrow \frac{x}{y} = 1 \rightarrow y = x \checkmark$

الف) $\sqrt{\frac{x-1}{x-4}} + \sqrt{\frac{4-x}{x}} \rightarrow \frac{x-1}{x-4} \geq 0 \quad + \quad \frac{4-x}{x} \geq 0$
 $\rightarrow \frac{4-x}{x} \geq 0 \rightarrow 0 < x \leq 4$
 ب) $x > 0$
 $y-1 \geq 0 \rightarrow y \geq 1$
 $\sqrt{y-1} = \sqrt{4-y} \rightarrow y \leq 4$
 $0 < x \leq 4$

الف) $\sqrt{x^2-4x+4} \rightarrow (x-2)(x-1) \geq 0$
 $\sqrt{x^2-10x+16} \rightarrow (x-4)(x-2) \geq 0$
 $\rightarrow (x-2)(x-1) \geq 0$
 $\rightarrow (x-4)(x-2) \geq 0$
 $\rightarrow x \leq 1, x \geq 4$
 $\rightarrow x \leq 2, x \geq 4$
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$\rightarrow D = (-\infty, 1) \cup (1, \frac{4}{3}) \cup (\frac{4}{3}, +\infty)$