

(۲۰)

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

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

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

(۲)

۱۲۰) اگر $m^2 = m + 2 \rightarrow m^2 - m - 2 = (m-2)(m+1) \rightarrow m=2 \rightarrow$ به دست می آید $(2,1), (2,4)$
 $\rightarrow m=-1 \rightarrow$ به دست می آید

۱۲۱) $m^2 = m + 2 \rightarrow m=2 \rightarrow \bar{0} \bar{0} \in \rightarrow$ به دست می آید $(2,2), (2,4)$
 $\hookrightarrow m=-1 \rightarrow \bar{0} \bar{0} \in \rightarrow$ به دست می آید $(-1,3), (-1,4)$
 برای جمع کردن

(۲)

$$\left. \begin{array}{l} x^2 - 1 \xrightarrow{n=1} 1 - 1 = 0 \\ ax + b \xrightarrow{n=1} a + b \end{array} \right\} \Rightarrow a + b = 0 \Rightarrow a = -b$$

$$\left. \begin{array}{l} ax + b \xrightarrow{n=2} 2a + b \\ -n^2 \xrightarrow{n=2} -4 \end{array} \right\} \Rightarrow 2a + b = -4 \xrightarrow{a=-b} -b = -4 \Rightarrow b = 4 \Rightarrow a = -4$$

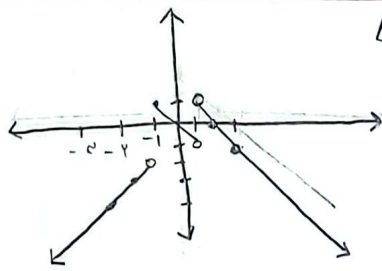
(۳ سوال)

$$\left. \begin{array}{l} 2x - 3 \xrightarrow{n=k} 2k - 3 \\ \varepsilon - 3n \xrightarrow{n=k} \varepsilon - 3k \end{array} \right\} 2k - 3 = \varepsilon - 3k \Rightarrow 5k = \varepsilon \Rightarrow k = \frac{\varepsilon}{5}$$

(۴ سوال)

$$-x + 2 \rightarrow \begin{array}{c|cccc} x & 1 & 2 & 3 & \varepsilon \\ \hline y & 1 & 0 & -1 & -2 \end{array}$$

$$x - 1 \rightarrow \begin{array}{c|cccc} x & -1 & -2 & -3 & -\varepsilon \\ \hline y & -2 & -3 & -4 & -\varepsilon \end{array}$$



$D_f = R - \{1\}$
 $R_f = (-\infty, 1]$

(۵ سوال)

۱۶۰) $xy^3 + x^2 + 1 = 0 \rightarrow xy^3 = -x^2 - 1 \rightarrow \left. \begin{array}{l} xy_1^3 = -x^2 - 1 \\ xy_2^3 = -x^2 - 1 \end{array} \right\} xy_1^3 = xy_2^3 \rightarrow y_1 = y_2$ تابع است

۱۶۱) $x^2 + \varepsilon y^2 - 2x - 1 = 0 \rightarrow (x-1)^2 + (\sqrt{\varepsilon}y)^2 = 2$
 نقطه $(1, \frac{\sqrt{2}}{\sqrt{\varepsilon}})$ تابع است

(۲)

سوال ۱۷) $x \sin y = y \sin x \xrightarrow{x \rightarrow 0} 0 = y \sin 0 \Rightarrow y = 0 \rightarrow$ صحیح نیست

ب) $\sqrt{\frac{n}{y}} + \sqrt{\frac{y}{n}} = \sqrt{\frac{1}{y}} + \sqrt{y} = 2 \rightarrow$ صحیح است $\rightarrow$ فقط وقتی (۱) که در آن صورت $y=1$

الف) $\sqrt{\frac{n-1}{n-2}} + \sqrt{\frac{2-n}{n}} \rightarrow \frac{2-n}{n} \rightarrow \frac{1}{-1+1} \rightarrow D_f = (0, 2]$ سوال ۱۸

$\hookrightarrow \frac{n-1}{n-2} > 0$ $\frac{1}{+} \frac{1}{-} \frac{1}{+} \frac{1}{+} \rightarrow D_f = (-\infty, 1] \cup (2, +\infty)$

$D_f \cap D_f' = (0, 1]$

ب) $\sqrt{n} + \sqrt{y-1} = \sqrt{3} \rightarrow \sqrt{y-1} = \sqrt{3} - \sqrt{n} \rightarrow \sqrt{3} - \sqrt{n} > 0$ $\sqrt{3} > \sqrt{n}$
 $\hookrightarrow n < 3$

$\Rightarrow D_f = [0, 3]$

سوال ۹) $y = \frac{\sqrt{n^2 - 7n + 4}}{\sqrt{n - \log n + 14}} \rightarrow n^2 - 7n + 4 \leq (n-1)(n-4) > 0$ $D_f = (-\infty, 1] \cup [4, +\infty)$

$n - \log n + 14 > 0 \rightarrow -9n > -14 \rightarrow 9n > 14 \rightarrow n > \frac{14}{9} = D_f'$

$y = \frac{\sqrt{n^2 - 7n + 4}}{\sqrt{n^2 - \log n + 14}} = \frac{\sqrt{(n-4)(n-1)}}{\sqrt{(n-2)(n-1)}} \rightarrow n > 1, 2, 4, 1$

$\rightarrow D_f = (-\infty, 1] \cup (2, 4] \cup (1, +\infty)$

سوال ۱۰) $y = \frac{\sqrt{2n^2 - 5n + 2}}{\sqrt{4n^2 - 7n + 2}} = \frac{\sqrt{(n-2)(n-1)}}{\sqrt{(n-2)(n-1/2)}} \rightarrow n > 1, \frac{1}{2}, \frac{2}{3}, \frac{1}{2}$

$D_f \cap D_f' = (-\infty, 1) \cup [\frac{2}{3}, +\infty)$

$y = \frac{\sqrt{2n^2 - 5n + 2}}{\sqrt{4n^2 - 7n + 2}} = \frac{\sqrt{(n-2)(n-1)}}{\sqrt{(n-2)(n-1/2)}} \rightarrow n > 1, \frac{1}{2}, \frac{2}{3}, \frac{1}{2}$