

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

$$(1, m^r)(1, m+r) \\ m^r = m+r \rightarrow m^r - m - r = 0 \rightarrow (m-r)(m+1) = 0 \rightarrow m = r \quad \boxed{m=1} \\ (1, 4)(1, 1) \times$$

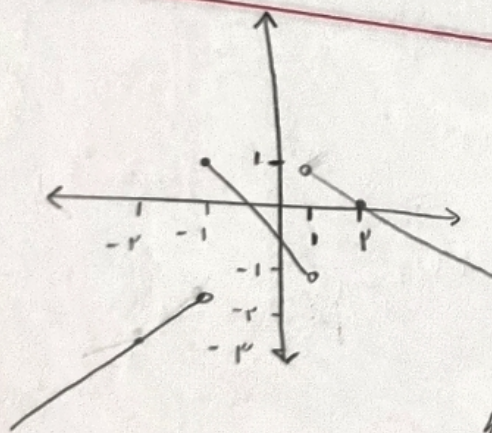
نیز قابل قبول

$$ب) m^r = m+r \rightarrow m^r - m - r = 0 \rightarrow (m-r)(m+1) = 0 \rightarrow m = r \quad \boxed{m=1} \\ (1, 1)(1, 4) \times \quad (-1, 4)(-1, 3) \times$$

نیز قابل قبول

$$1-1 = a+b \rightarrow a+b = 0 \rightarrow -a+b = 0 \\ 2a+b = 1 \rightarrow 2a+b = 1 \rightarrow 2a+b = 1 \rightarrow a \times b = -1 \times 1 = \boxed{-1} \\ a = 1, b = -1$$

$$y_k - 3 = \varepsilon - 3y_k = \omega_k = v \rightarrow k = \frac{v}{\omega} \rightarrow k = \frac{v}{\omega}$$



$$\begin{aligned} -k+2 &\rightarrow k=1 \rightarrow -1+2=1 \\ -k+2 &\rightarrow k=2 \rightarrow -2+2=0 \\ -k &\rightarrow k=1 \rightarrow -1 \\ -k &\rightarrow k=-1 \rightarrow 1 \\ k-1 &\rightarrow k=1 \rightarrow 1-1=0 \\ k-1 &\rightarrow k=-2 \rightarrow -2-1=-3 \end{aligned}$$

$$ا) y^r + k y_{r+1} = 0 \rightarrow k^r = -1 \rightarrow y^r = -\frac{1}{r} \rightarrow \sqrt{-\frac{1}{r}} = \text{تابع صحت} \\ ب) (k-1)^r = (y-1)^r = 0 \rightarrow k=1, y = \frac{r}{r} = \text{تابع صحت}$$

الف) $\lim_{n \rightarrow \infty} \frac{x \sin y}{y} = y \sin x \rightarrow x = 0 \rightarrow x \sin y = 0 \rightarrow \sin y$ تابع نیست

ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \rightarrow \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \rightarrow x = y \rightarrow y \neq 0$ تابع نیست

الف) $y = \sqrt{\frac{x-1}{x-2}} + \sqrt{\frac{x-2}{x-1}}$
 $\frac{1}{x-2} + \frac{1}{x-1} = \frac{x-1}{x-2} + \frac{x-2}{x-1} \rightarrow (-\infty, 1] \cup (2, +\infty)$
 $\frac{1}{x-2} + \frac{1}{x-1} = \frac{2}{x-1.5} \rightarrow (0, 2] \rightarrow D_f = (0, 1]$

ب) $\sqrt{x} + \sqrt{y-1} = \sqrt{3} \rightarrow \sqrt{y-1} = \sqrt{3} - \sqrt{x} \rightarrow y-1 = 3+x-2\sqrt{3x} \rightarrow y = 4+x-2\sqrt{3x}$
 $3x \geq 0 \rightarrow x \geq 0 \rightarrow D_f = [0, +\infty)$

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

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

الف) $y = \frac{\sqrt{x^2-8x+12}}{\sqrt{x^2-5x+4}}$
 $\frac{1}{x-4} + \frac{1}{x-3} = \frac{x-3}{x-4} + \frac{x-4}{x-3} \rightarrow x = \frac{1}{2}, y = \frac{1}{2}$

$\frac{1}{x-4} + \frac{1}{x-3} = \frac{2}{x-3.5} \rightarrow (-\infty, 1) \cup (3, +\infty)$
 $\frac{1}{x-4} + \frac{1}{x-3} = \frac{2}{x-3.5} \rightarrow (-\infty, 1) \cup (3, +\infty)$
 $D_f = (-\infty, 1) \cup (3, +\infty)$

ب) $y = \frac{\sqrt{(x-1)(x-\frac{1}{2})}}{\sqrt{(x-1)(x-\frac{1}{2})}}$
 $\frac{1}{x-1} + \frac{1}{x-\frac{1}{2}} = \frac{x-\frac{1}{2}}{x-1} + \frac{x-1}{x-\frac{1}{2}} \rightarrow (-\infty, 1) \cup (\frac{1}{2}, +\infty)$