

نام خانوادگی: امیر کاظمی اسفندیار شیری تکلیف شماره ۳ کلاس: دهم تجربی

تابع است. $y_1' = y_2' \Rightarrow y_1 = y_2$
 $y_1'' = 2y_1' + y_1$ $y_2'' = 2y_2' + y_2$
 الف) $y'' - x = 2y'$

ب) $|y| + x^2 = y + 3 \xrightarrow{x=1} y = \pm 3$ تابع نیست

ج) $\sqrt{x-4} + |y-1| = 0 \xrightarrow{x=4} y = 0, y = -1$ تابع نیست

د) $x = \cos y$ $\left. \begin{matrix} x = \cos y_1 \\ x = \cos y_2 \end{matrix} \right\} \cos y_1 = \cos y_2 \Rightarrow \cos C = \cos 3C$ تابع نیست

الف) $y = \frac{x+4}{x^2-4x}$ $x = -4$ $x = 0$ $x = 4$ $\frac{-4}{-4+16-16} + \frac{0}{-4+16-16} + \frac{4}{-4+16-16} = [-4, 0) \cup (4, +\infty)$

ب) $y = \frac{x+4}{x^2-\sqrt{x+4}}$ $\Rightarrow D_f = \mathbb{R}$

ج) $y = \frac{x+4}{x^2+x+4}$ $\Rightarrow D_f = \mathbb{R}$

د) $y = \frac{x+4}{x^2-4x^2}$ $x = -4$ $x = 0$ $x = 4$ $\frac{-4}{-4+16-16} + \frac{0}{-4+16-16} + \frac{4}{-4+16-16} = (-\infty, -4) \cup (-4, 0) \cup (4, +\infty)$

الف) $y = \sqrt{4-x} + \sqrt{x-2} \Rightarrow 4-x \geq 0 \Rightarrow x \leq 4$ $x-2 \geq 0 \Rightarrow x \geq 2$ $D_f = [2, 4]$

ب) $y = \frac{x^2+1}{x^2+1}$ $x^2+1 \neq 0 \Rightarrow x^2 \neq -1$ $\Rightarrow D_f = \mathbb{R}$

ج) $y = \frac{\sqrt{x-2}}{x-4}$ $x-2 \geq 0 \Rightarrow x \geq 2$ $x-4 \neq 0 \Rightarrow x \neq 4$ $D_f = [2, +\infty) - \{4\}$

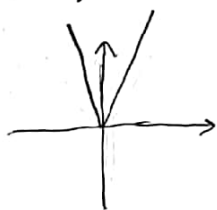
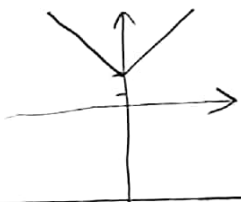
د) $y = \frac{x^2+3}{|x|+x^2}$ $|x|+x^2 \neq 0 \Rightarrow x \neq 0, 1, -1$ $D_f = \mathbb{R} - \{0, 1, -1\}$

الف) $y = |x| + x$

ب) $y = 2|x|$

ج) $y = |x+2|$

د) $y = |x+2| + c$

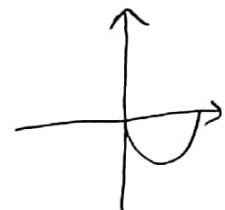
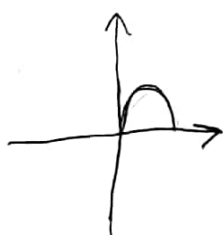


الف) $f(x) = x^2$

ب) $2f(x)$

ج) $f(x-1)$

د) $-f(x)$



$$\text{الف) } (x-2)(x-3)(x-4)$$

$$\begin{array}{c} 2 \quad 3 \quad 4 \\ -\phi + \phi - \phi + \end{array}$$

$$\text{ب) } (x-2)(x-3)^2(x-4)$$

$$\begin{array}{c} 2 \quad 3^* \quad 4 \\ +\phi - \phi - \phi + \end{array}$$

$$\text{الف) } y = \frac{(x-2)(x-4)}{x-3}$$

$$\begin{array}{c} 2 \quad 3 \quad 4 \\ -\phi + \phi - \phi + \end{array}$$

$$\text{ب) } y = \frac{(x-2)(x-4)}{(x-3)^2}$$

$$\begin{array}{c} 2 \quad 3^* \quad 4 \\ +\phi - \phi - \phi + \end{array}$$

$$\text{الف) } \frac{x^3 - 3x^2 + 2}{x-3} = \frac{(x-1)(x-1)(x+2)}{x-3}$$

$$\begin{array}{c} -2 \quad 1^* \quad 3 \\ +\phi - \phi - \phi + \end{array}$$

$$\text{ب) } \frac{x^2 - 5x + 4}{x^2 - 4x + 4} = \frac{(x-1)(x-4)}{(x-1)(x-2)}$$

$$\begin{array}{c} 1^* \quad 2 \quad 3 \\ +\phi + \phi - \phi + \end{array}$$

$$\text{الف) } y = \frac{x^2 - x}{x^2 + x + 2} = \frac{x^2(x^2 - 1)}{x^2 + x + 2}$$

$$\begin{array}{c} -1 \quad 0 \quad 1 \\ -\phi + \phi - \phi + \end{array}$$

$$\text{ب) } \frac{x^2 + 3x + 2}{x^2 + 2x + 2} = \dots \Rightarrow Df = R$$

$$\text{الف) } y = \sqrt{\frac{x^2 - 1}{x^2 - 2}}$$

$$\frac{x^2 - 1}{x^2 - 2} \geq 0 \rightarrow x = 1$$

$$\begin{array}{c} -1 \quad 0 \quad 1 \\ +\phi - \phi + \phi + \end{array}$$

$$x(x^2 - 1) \begin{cases} x = 0 \\ x = \pm 1 \end{cases} D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

$$\text{ب) } y = \sqrt{\frac{x^2 - 1}{x^2 - 5x + 4}}$$

$$\frac{x^2 - 1}{x^2 - 5x + 4} \geq 0 \rightarrow x = \pm 1$$

$$\begin{array}{c} -1 \quad 1 \quad 4 \\ +\phi + \phi - \phi + \end{array}$$

$$\rightarrow x = 1, x = -4$$

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