

Date:

Sub:

۱۷/۲۵

$$\left. \begin{aligned} y_1'' &= 2x^2 + 2x - 1 \\ y_2'' &= 2x^2 + 2x - 1 \end{aligned} \right\}$$

$$\Rightarrow y_1'' = y_2'' \Rightarrow y_1 = y_2 \quad \checkmark \text{ تابع بودن}$$

۱، ۲۵ (۱)

مثال نقیض اگر x را صفر گرفته و y را هر عدد دلخواه نقیض کردیم

$$x \cos y = y \cos x$$

تابع متغیره

$$x=0 \rightarrow y \times \cos 0 = 0 \rightarrow y=0$$

مثال نقیض

$$x=0 \rightarrow y \times \cos 0 = 0 \rightarrow y=0$$

$$x+y = 2\sqrt{xy} \Rightarrow x+y-2\sqrt{xy} = 0$$

$$(\sqrt{x}-\sqrt{y})^2 = 0 \rightarrow \sqrt{x} = \sqrt{y} \rightarrow x=y$$

$$x-y^2+2x = y^3+2y \Rightarrow (y^2+2)x = y^3+2y \Rightarrow x = \frac{y(y^2+2)}{y^2+2} \Rightarrow x=y \quad \checkmark \text{ تابع بودن}$$

$$|x-1| \geq 2 \Rightarrow x-1 \geq 2 \text{ و } x-1 \leq -2$$

$$x \geq 3 \text{ و } x \leq -1$$

در دو عبارت
صداق کرده

$$x=-1 \Rightarrow 2-b=a-2$$

$$\checkmark a+b=4$$

$$x=-2 \Rightarrow 1-b=a-3$$

$$a+b=4$$

$$\sqrt{a-b-b^2} \Rightarrow a=2b^2$$

$$-x^2-bx+a$$

$$\sqrt{a-2b-b^2} \Rightarrow \sqrt{2b^2-2b^2-b^2}$$

$$a=2b^2=-2b$$

$$\Rightarrow 2b=-2$$

$$\Rightarrow -1=b$$

$$b=-1$$

$$a=2$$

$$a+b=1 \quad \checkmark$$

$$x=2 \rightarrow fa+2b+c=0$$

$$\frac{1}{1} + \frac{1}{1} = 2 \Rightarrow a=0$$

$$\Rightarrow 2b=-c$$

$$x=0$$

$$\rightarrow \sqrt{c} \quad \text{تقریب}$$

$$c>0 \leftarrow \text{در دو حالت}$$

$$b<0 \quad (1)$$

$$3(0)+(-2b)-3|b|=b$$

$$\textcircled{1}$$

$$|b|=-b$$

$$\text{Calc) } |x| - [20] > 0 \Rightarrow 0, z^+ \notin D \Rightarrow D = R - (z^+ \cup \{0\}) \checkmark \quad \textcircled{2} \quad \textcircled{10}$$

$R - w$

$$\hookrightarrow \sqrt{y} = 9 - \sqrt{x} \rightarrow x \geq 0, 9 - \sqrt{x} \geq 0 \Rightarrow D = [0, 81] \checkmark$$

$$\text{Calc) } \log \frac{x^3 - 1}{x} \geq 0, \frac{x^3 - 1}{x} > 0 \left\{ \begin{array}{l} x > 0 \\ x \neq 1 \end{array} \right\} \Rightarrow \left(\frac{1}{4}, +\infty \right) - \{1\} \quad \textcircled{1} \quad D \subset \left(\frac{1}{4}, \frac{2}{3} \right] \cup (1, +\infty)$$

$$\downarrow 0 < x^3 - 1 \leq x^0 \rightarrow x \leq \frac{2}{3}$$

$$x^3 - 1 \geq 1 \Rightarrow x \geq \frac{2}{3} \quad \left(\frac{2}{3}, +\infty \right) \quad \textcircled{2}$$

$$\textcircled{1} \cap \textcircled{2} = \left(\frac{2}{3}, +\infty \right) - \{1\}$$

~~$$\textcircled{1} \cup \textcircled{2} = \left(\frac{1}{4}, \frac{2}{3} \right] \cup (1, +\infty) \Rightarrow D = R - \{1\}$$~~

$$9) \quad \hookrightarrow \quad 9 + \sqrt{|x|} - |x| \geq 0 \quad \rightarrow \quad x = \pm 9.$$

$$\begin{array}{c} -9 \quad 9 \\ \hline - \mid + \mid - \end{array} \quad R = (-9, 9) \quad \checkmark$$

$$a+b \neq 0 \Rightarrow x = -b$$

1, 2, 5 (17)

$$y \neq -b \Rightarrow b \neq -y \Rightarrow R - \{-y\}$$

ریشه ی صورت باید از بین برود $a = -3$

$$x^2 - 1; \Delta < x < [2, +\infty) \rightarrow y = \sqrt{x} \quad D = R$$

2 (18)

$$x^2 + 3; x \in (-\infty, 5) \rightarrow y = \sqrt{x^2 + 3} \quad 3x + 4 > 0 \Rightarrow x > -\frac{4}{3}$$

$$D = [-\frac{4}{3}, +\infty)$$

$$4x^2 + 4x + 1 \neq 0 \rightarrow \text{ریشه مضاعف} \quad D = R - \{-\frac{1}{2}\}$$

1, 7, 8 (9)

$$\frac{3}{4n+1} \quad \text{ساده شده ی نابو}$$

2 (10)

$$1 - \log(3x - 9) \geq 0 \Rightarrow \log(3x - 9) \leq 1 \Rightarrow 3x - 9 \leq 10 \quad (1)$$

$$\frac{b^0}{\log} \rightarrow 3x - 9 > 0 \quad (2)$$

$$(1) \cap (2) \Rightarrow 0 < 3x - 9 \leq 10$$

$$0 + \frac{9}{3} < x \leq \frac{19}{3}$$

$$(\frac{19}{3}) - (\frac{9}{3}) = \frac{10}{3} \quad (5) \quad \checkmark$$