

نام و نام خانوادگی: علیزاده کلاس: شماره: پاسخنامه تشریحی تکلیف شماره:
 ۲۰. اختیار عالی نیست

$$\rightarrow (a-2)x^2 + ax + b \geq 0$$

اگر عبارت کیهی باشد پس جواب با مانده به صورت $(-\infty, 2] \cup [7, +\infty)$ باشد
 به صورت $[2, 7]$ باشد

اما چون که جواب کیده است به صورت $[2, 7]$ نیست چیزی بریم که مع خطی است اینست

$$\rightarrow a-2=0 \rightarrow a=2$$

و ۳ نیز ریشه عبارت بر داریکان است

$$\rightarrow 2x + b = 0 \rightarrow 2x^2 + b = 0 \rightarrow \boxed{b = -6}$$

$$\rightarrow x^2 + 2x + 2 - m^2 \geq 0 \quad \left\{ \Rightarrow \Delta \leq 0 \rightarrow 4 - 4 + 4m^2 \leq 0 \rightarrow 4m^2 \leq 4 \rightarrow m^2 \leq 1 \right.$$

$$D_f = R$$

$$\rightarrow -1 \leq m \leq 1$$

$$1 - (-1) = 2$$

$$\left\{ \begin{array}{l} 4 - x^2 \geq 0 \rightarrow x^2 \leq 4 \rightarrow -2 \leq x \leq 2 \\ [x] + [-x] + 1 \neq 0 \end{array} \right. \rightarrow [x] + [-x] \neq -1 \rightarrow x \in Z$$

$$\rightarrow D_f = \{-2, -1, 0, 1, 2\}$$

به ازای اعداد غیر صحیح برابر با صفر می باشد

$$\text{الف) } x^2 + 2x^2 \geq 0 \rightarrow x^2(x+2) \geq 0 \rightarrow \frac{-2}{-d+d+} \rightarrow D_f = [-2, +\infty)$$

$$\text{ب) } \rightarrow \frac{(x-1)(x^2-2x^2)}{(x^2-1)} \geq 0 \rightarrow \frac{(x-1)(x+1)(x^2-2)}{(x-1)(x^2+x+1)} \geq 0 \rightarrow \frac{-1}{+d-d+} \rightarrow D_f = (-\infty, -1] \cup \{0\} \cup [2, +\infty)$$

$$\rightarrow D_f = (-\infty, -1] \cup \{0\} \cup [2, +\infty)$$

$$\text{الف) } y = \sqrt{|x-2|-2} \rightarrow |x-2|-2 \geq 0 \rightarrow |x-2| \geq 2 \rightarrow \left\{ \begin{array}{l} x-2 \geq 2 \rightarrow x \geq 4 \\ x-2 \leq -2 \rightarrow x \leq -1 \end{array} \right. \rightarrow D_f = (-\infty, -1] \cup [4, +\infty)$$

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

$$\text{ب) } \rightarrow 4 - |2-x| \geq 0 \rightarrow |2-x| \leq 4 \rightarrow -4 \leq 2-x \leq 4 \rightarrow \left\{ \begin{array}{l} 2-x \leq 4 \rightarrow x \geq -2 \\ 2-x \geq -4 \rightarrow x \leq 6 \end{array} \right. \rightarrow D_f = [-2, 6]$$

$$\rightarrow -2 \leq x \leq 6 \Rightarrow D_f = [-2, 6]$$

$$\text{الف) } y = \sqrt{1-x|x|} \rightarrow 1-x|x| \geq 0 \rightarrow x|x| \leq 1 \Rightarrow D_f = (-\infty, 1]$$

$$\begin{aligned} \text{ب) } \left\{ \begin{array}{l} \sqrt{1-x|x|} \geq 0 \rightarrow |x-1| \leq 1 \rightarrow -1 \leq x-1 \leq 1 \rightarrow 0 \leq x \leq 2 \\ \sqrt{1-x|x|} - 1 \neq 0 \rightarrow \sqrt{1-x|x|} \neq 1 \rightarrow 1-x|x| \neq 1 \rightarrow |x-1| \neq 2 \end{array} \right. \Rightarrow D_f = [0, 2] - \{1\} \end{aligned}$$

$$\text{الف) } \rightarrow \cos x \neq 0 \rightarrow D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$$

$$\text{ب) } \rightarrow 2\cos x - 1 \neq 0 \rightarrow 2\cos x \neq 1 \rightarrow \cos x \neq \frac{1}{2}$$

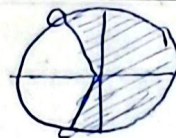
$$\Rightarrow D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{3} \right\}$$

$$\begin{aligned} \text{الف) } \rightarrow |2x+1| - |x+3| \neq 0 \rightarrow |2x+1| \neq |x+3| \rightarrow (2x+1)^2 \neq (x+3)^2 \\ 4x^2 + 4x + 1 \neq x^2 + 6x + 9 \rightarrow 3x^2 - 2x - 8 \neq 0 \rightarrow x \neq 2, -\frac{4}{3} \Rightarrow D_f = \mathbb{R} - \left\{ 2, -\frac{4}{3} \right\} \end{aligned}$$

$$\begin{aligned} \text{ب) } \rightarrow |2x+1| - |x+3| \geq 0 \rightarrow |2x+1| \geq |x+3| \rightarrow (2x+1)^2 \geq (x+3)^2 \\ 4x^2 + 4x + 1 \geq x^2 + 6x + 9 \rightarrow 3x^2 - 2x - 8 \geq 0 \rightarrow \frac{-\frac{2}{3} \pm \sqrt{\frac{4}{9} + 24}}{2 \cdot 3} \\ \Rightarrow D_f = (-\infty, -\frac{4}{3}] \cup [2, +\infty) \end{aligned}$$

$$\begin{aligned} \Rightarrow \log_{10} \log_{10}^{(2x-1)} \geq 0 \Rightarrow \begin{cases} 2x-1 > 0 \rightarrow x > \frac{1}{2} \\ \log_{10}^{(2x-1)} > 0 \rightarrow 2x-1 > 1 \rightarrow x > 1 \\ \log_{10}^{(2x-1)} \geq 0 \rightarrow \log_{10}^{(2x-1)} \leq 1 \rightarrow 1 \leq 2x-1 \leq 10 \rightarrow x \leq \frac{11}{2} \end{cases} \\ \Rightarrow 1 < x \leq 3 \Rightarrow D_f = (1, 3] \end{aligned}$$

$$\text{الف) } \rightarrow 2\cos x + 1 > 0 \rightarrow \cos x > -\frac{1}{2}$$



$$\Rightarrow D_f = \mathbb{R} - \left[\frac{2\pi}{3}, \frac{4\pi}{3} \right]$$

$$\begin{aligned} \text{ب) } y = \sqrt{\log_{10} \frac{x-1}{x+1}} \rightarrow \log_{10} \frac{x-1}{x+1} \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow \frac{x-1-x-1}{x+1} \geq 0 \\ \rightarrow \frac{-2}{x+1} \geq 0 \rightarrow \frac{-2}{x+1} \geq 0 \Rightarrow D_f = (-\infty, -1) \end{aligned}$$