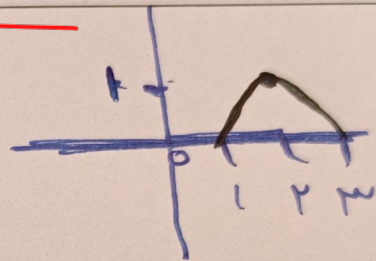


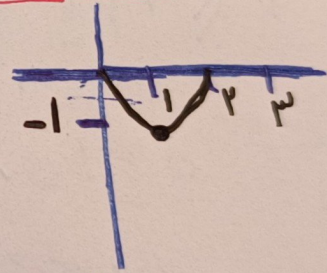
نام و نام خانوادگی پریناز صبا لاجی پاسخنامه تشریحی تکلیف شماره ۵۰ کلاس دهم

۱۹,۱۵

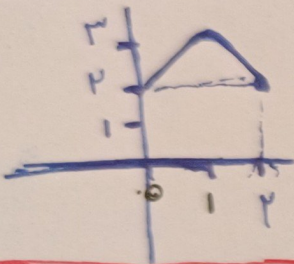
ج)



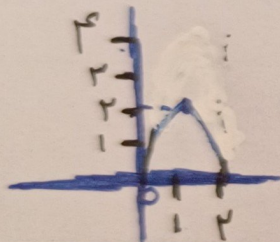
د)



الف)



ب)



۲ ✓

$$1) (x-2)(x-3) > 0$$

$$\begin{array}{c} 2 \quad 3 \\ + \phi - \phi + \end{array} \rightarrow D_f = (-\infty, 2) \cup (3, +\infty)$$

$$2) (x+1)(x+5) \geq 0 \quad \text{✓}$$

$$\begin{array}{c} -5 \quad -1 \\ + \phi - \phi + \end{array} \rightarrow D_f = [-\infty, -5] \cup [-1, +\infty)$$

$$3) (x-1)(x-5) < 0$$

$$\begin{array}{c} 1 \quad 5 \\ + \phi - \phi + \end{array} \rightarrow D_f = (1, 5)$$

4)

$$(x-1)(x-4) \leq 0$$

$$\begin{array}{c} 1 \quad 4 \\ + \phi - \phi + \end{array} \rightarrow D_f = [1, 4]$$

$$\text{الف) } \frac{(x-1)(x-2)}{(x-3)} < 0$$

$$\begin{array}{c} 1 \quad 2 \quad 3 \\ \hline - \quad + \quad - \quad + \end{array}$$

$$D_f = (-\infty, 1) \cup (2, 3) \quad \textcircled{2} \checkmark$$

$$\text{ب) } \frac{(x-1)(x+1)}{(x-1)(x-3)} \geq 0$$

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

$$D_f = (-\infty, -1] \cup (3, +\infty)$$

الف) $\frac{(x-1)(x^2+x+1)}{x(x-1)(x+1)} \geq 0$ صنفی ریشه ندارد

زیرا دیکال بزرگتر
مساوی صفر است

$$\begin{array}{r} -1 \quad 0 \quad 1^* \\ + \frac{1}{x} - \frac{1}{x} + \frac{1}{x} + \end{array}$$

$D_f = (-\infty, -1) \cup (0, +\infty) - \{1\}$ ۱۱۷۵ ✓

ب) $\frac{(x-4)(x+4)}{(x-1)(x-4)} \geq 0$

$$\begin{array}{r} -4 \quad 1 \quad x^* \\ + \frac{1}{x-4} - \frac{1}{x-4} + \frac{1}{x-4} + \end{array}$$

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

$$\text{الف) } 2-x \geq 0 \rightarrow x \leq 2$$

$$f = \sqrt{2-x} \geq 0$$

$$\sqrt{2-x} \leq f$$

$$2-x \leq 19$$

$$x \geq -17$$

$$D_f = [-17, 2]$$

② ✓

$$\text{ب) } \sqrt{x-2} \geq 0 \rightarrow x \geq 2$$

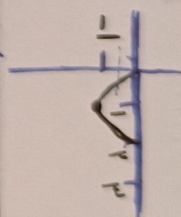
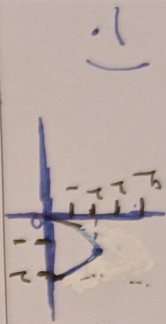
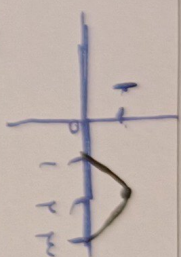
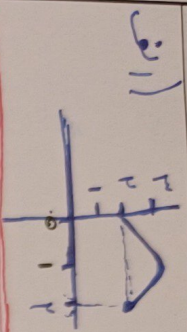
$$3 - \sqrt{x-2} \geq 0$$

$$\sqrt{x-2} \leq 3$$

$$x-2 \leq 9$$

$$x \leq 11$$

$$D_f = [2, 11]$$



الف) $(x-1)(x-2) > 0$

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

ج) $(x+1)(x+2) \geq 0$

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

د) $(x-1)(x-2) \leq 0$

$\frac{1}{x-1} - \frac{1}{x-2} \leq 0 \rightarrow D_f = [1, 2]$

الف) $(x-1)(x-2) < 0$

$\frac{1}{x-1} - \frac{1}{x-2} < 0$

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

ب) $(x-1)(x-2) \geq 0$

$\frac{-1}{x-1} - \frac{-1}{x-2} \geq 0$

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

الف) $(x-1)(x^2+x+1)$

$x(x-1)(x+1)$

صفتی نیست
دارد
زیرا دال بر
مستوی صفر است

$\frac{-1}{x-1} - \frac{1}{x} + \frac{1}{x+1} +$

$D_f = (-\infty, -1) \cup (0, +\infty)$

الف) $x-1 \geq 0 \rightarrow x \leq 1$

$x - \sqrt{x-1} \geq 0$

$\sqrt{x-1} \leq x \rightarrow D_f = [-1, 1]$

$x-1 \leq 1 \rightarrow x \leq 2$

ب) $(x-1)(x^2+x+1) \geq 0$

$\frac{-1}{x-1} - \frac{1}{x} + \frac{1}{x+1} +$

$D_f = (-\infty, -1] \cup (1, +\infty) - \{1\}$

ب) $x-1 \geq 0 \rightarrow x \geq 1$

$x - \sqrt{x-1} \geq 0$

$D_f = [1, 1]$

$\sqrt{x-1} \leq x \rightarrow x-1 \leq 1$

$x \leq 2$

$$1) \quad 4 - 2x^2 \geq 0$$

$$2x^2 \leq 4$$

$$x^2 \leq 2$$

$$-\sqrt{2} \leq x \leq \sqrt{2}$$

$$D_f = -\sqrt{2} \leq x \leq \sqrt{2} \quad [-\sqrt{2}, \sqrt{2}]$$

$$\Rightarrow) \quad 3|x| - 9 \geq 0$$

$$3|x| \geq 9$$

$$|x| \geq 3$$

$$x \geq 3$$

$$x \leq -3$$

$\textcircled{D} \checkmark$

$$D_f = (-\infty, -3] \cup [3, +\infty)$$

الف) دامنه‌ی رادیکال
با فرض جبری فرد

$|x|-3 \neq 0$ می شود $\mathbb{R}$ فقط

$|x| \neq 3$ خارج نباید صفر شود

$$x \neq \pm 3$$

$$D_f = \mathbb{R} - \{\pm 3\}$$

✓

ب) $\sqrt{x} - 3 \neq 0$

$$\sqrt{x} \neq 3$$

$$\underline{x \neq 9}$$

$$\underline{x \geq 0}$$

$$D_f = [0, +\infty) - \{9\}$$

$$1) \quad r \cos \alpha - 1 \neq 0$$

$$\cos \alpha \neq \frac{1}{r}$$

$$D_F = \mathbb{R} - \left\{ \frac{k\pi}{r} \pm \frac{\pi}{2} \right\}$$

$$\rightarrow r \sin \alpha + 1 \neq 0$$

$$\sin \alpha \neq -\frac{1}{r}$$

$$D_F = \mathbb{R} - \left\{ \frac{k\pi}{r} + \frac{\pi}{2}, \frac{k\pi}{r} + \frac{3\pi}{2} \right\}$$

$$2) \quad \tan \alpha = \frac{\sin}{\cos} \rightarrow \cos \alpha \neq 0 \quad \left\{ \frac{k\pi}{2} \right\}$$

$$\cot \alpha = \frac{\cos}{\sin} \rightarrow \sin \neq 0$$

$$\cot \alpha - 1 \neq 0 \rightarrow \cot \alpha \neq 1 \rightarrow \left\{ k\pi + \frac{\pi}{4} \right\}$$

$$D_F = \mathbb{R} - \left\{ \frac{k\pi}{2}, k\pi + \frac{\pi}{2} \right\}$$

$$\rightarrow r \sin \alpha \neq 0$$

$$\sin \alpha \neq \frac{0}{r}$$

$$\sin \alpha \neq \frac{0}{r}$$

$$D_F = \mathbb{R} - \left\{ \frac{k\pi}{2} \pm \frac{\pi}{2} \right\} \quad \left\{ k\pi \pm \frac{\pi}{2} \right\}$$

$$Y = \frac{1}{\sqrt{r|q-r| - \frac{1}{r}}}$$

$$r|q-r| - \frac{1}{r} > 0$$

$$r|q-r| > \frac{1}{r}$$

$$|q-r| > \frac{1}{r}$$

$$q-r > \frac{1}{r} \quad \rightarrow$$

$$q-r < -\frac{1}{r} \quad \rightarrow$$

$$q > \frac{q}{r}$$

$$q < \frac{q}{r}$$

} $\left\{ \begin{array}{l} q > \frac{q}{r} \\ q < \frac{q}{r} \end{array} \right\}$

$$D_f = (-\infty, \frac{q}{r}) \cup (\frac{q}{r}, +\infty)$$

②

✓

الف)

$$x^2 - 2|x| + 1 \geq 0$$

$$x^2 - 2|x| + 1 \leq 0$$

$$x^2 - 2|x| + 1 \leq 0$$

$$-1 \leq x \leq 1$$

$$D_f = [-1, +1]$$

۲ ✓

$$b) \frac{|x|}{|x|} \geq 0$$

$$x \neq 0$$

→ به ازای $x > 0$

→ به ازای $x < 0$

تعریف نشده → به ازای $x = 0$

$$D_f = \mathbb{R} - \{0\}$$

$$1) \quad 2 - 2x^2 > 0$$

$$2x^2 \leq 2$$

$$x^2 \leq 1$$

$$-\sqrt{2} < x < \sqrt{2}$$

$$2) \quad 3|x| - 9 > 0$$

$$3|x| \geq 9$$

$$|x| \geq 3$$

$$x \geq 3$$

$$x \leq -3$$

$$D_f = [-\sqrt{2}, \sqrt{2}] \cup (-\infty, -3] \cup [3, +\infty)$$

الف) $\sqrt{\frac{|x|-1}{|x|+1}}$ دامنه ی اردها
بازرسی فرد

$$|x|-1 \neq 0 \quad \text{میشود } R \text{ متغیر}$$

$$|x| \neq 3 \quad \text{مخرج نباید صفر شود}$$

$$x \neq \pm 3$$

$$D_f = 1R - \{\pm 3\}$$

$$D_f = [0, +\infty) - \{9\}$$

ب) $\sqrt{x} - 3 \neq 0$ $x \geq 0$

$$\sqrt{x} \neq 3$$

$$x \neq 9$$

الف) $2 \cos x - 1 \neq 0$

$$\cos x \neq \frac{1}{2}$$

$$D_f = 1R - \left\{ \frac{\pi}{3}, \frac{5\pi}{3} \right\}$$

ج) $\tan x = \frac{\sin x}{\cos x} \rightarrow \cos x \neq 0$ $\left\{ \frac{\pi}{2}, \frac{3\pi}{2} \right\}$

$$\cot x = \frac{\cos x}{\sin x} \rightarrow \sin x \neq 0$$

$$\{k\pi + \frac{\pi}{2}\}$$

د) $2 \sin x + 1 \neq 0$

$$\sin x \neq -\frac{1}{2}$$

$$D_f = 1R - \left\{ \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$$

$$D_f = 1R - \left\{ \frac{\pi}{6}, \frac{5\pi}{6} \right\}$$

ه) $\sin^2 x - \frac{1}{4} \neq 0$
 $\sin^2 x \neq \frac{1}{4}$
 $\sin x \neq \pm \frac{1}{2}$

$$y = \frac{1}{\sqrt{2|x-1| - \frac{1}{2}}}$$

$$2|x-1| - \frac{1}{2} > 0$$

$$2|x-1| > \frac{1}{2}$$

$$|x-1| > \frac{1}{4}$$

$$x > \frac{5}{4}$$

$$x-1 < -\frac{1}{4} \rightarrow x < \frac{3}{4}$$

$$D_f = (-\infty, \frac{3}{4}) \cup (\frac{5}{4}, +\infty)$$

الف) $2 - 2|x| > 0$

$$2|x| < 2$$

$$|x| < 1$$

$$-1 < x < 1$$

$$D_f = [-1, 1]$$

ب) $\frac{|x|}{|x|} \geq 0$ $x \neq 0$

$$+ \rightarrow \text{برای اعداد مثبت}$$

$$+ \rightarrow \text{برای اعداد منفی}$$

$$0 \rightarrow \text{تعریف نشده}$$

$$D_f = 1R - \{0\}$$