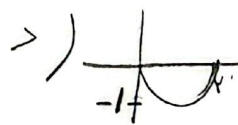
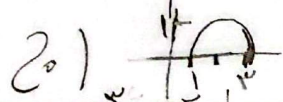


نام و نام خانوادگی: ... هفت ... پاسخنامه تشریحی تکلیف شماره ... کلاس: ...



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الف) $x^2 - 5x + 6 > 0 \Rightarrow$ $(-\infty, -1) \cup (2, \infty)$

ب) $x^2 - 6x + 5 < 0 \Rightarrow$ $(1, 5)$

ج) $x^2 + 4x + 5 \geq 0 \Rightarrow$ $(-\infty, -5] \cup [-1, \infty)$

د) $x^2 - 7x + 6 \leq 0 \Rightarrow$ $[1, 6]$

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الف) $\frac{x^2 - 3x + 2}{x^2 - 5x + 6} < 0 \Rightarrow$ $(-\infty, -1) \cup (2, 3) \cup (5, \infty)$

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ب) $\frac{x^2 - 1}{x^2 - 6x + 5} \geq 0 \Rightarrow$ $(-\infty, -1] \cup [1, 5) \cup [5, \infty)$

الف) $\sqrt{\frac{x^2 - 1}{x^2 - 5x + 6}} \Rightarrow$ $\Rightarrow (-1, \infty)$

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ب) $\sqrt{\frac{x^2 - 16}{x^2 - 5x + 6}} \Rightarrow$ $\Rightarrow (-\infty, -4] \cup [2, \infty)$

الف) $\sqrt{4 - \sqrt{2 - x}} \Rightarrow$ $2 - x \geq 0 \Rightarrow x \leq 2$
 $4 - \sqrt{2 - x} \geq 0 \Rightarrow \sqrt{2 - x} \leq 4 \Rightarrow 2 - x \leq 16 \Rightarrow -x \leq 14 \Rightarrow x \geq -14$
 $-14 \leq x \leq 2 \Rightarrow Df = [-14, 2]$

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ب) $\sqrt{3 - \sqrt{x - 2}} \Rightarrow$ $x - 2 \geq 0 \Rightarrow x \geq 2$
 $3 - \sqrt{x - 2} \geq 0 \Rightarrow \sqrt{x - 2} \leq 3 \Rightarrow x - 2 \leq 9 \Rightarrow x \leq 11$
 $2 \leq x \leq 11 \Rightarrow Df = [2, 11]$

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

ب) $3|x| - 9 \geq 0 \Rightarrow 3|x| \geq 9 \Rightarrow |x| \geq 3 \Rightarrow x \geq 3 \text{ or } x \leq -3$
 $D_f = (-\infty, -3] \cup [3, \infty)$

الف) $|x| - 3 \neq 0 \Rightarrow |x| \neq 3 \Rightarrow x \neq 3, -3$
 $D_f = \mathbb{R} - \{3, -3\}$

ب) $\sqrt{x} - 3 \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9$
 $D_f = \mathbb{R}^+ - \{9\}$

الف) $2 \cos x - 1 \neq 0 \Rightarrow 2 \cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{2}$
 $D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}$

ب) $2 \sin x + 1 \neq 0 \Rightarrow \sin x \neq -\frac{1}{2}$
 $D_f = \mathbb{R} - \{2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{5\pi}{6}\}$

2) $\cot x \neq 1 \Rightarrow \cot x \neq 1$
 $D_f = \mathbb{R} - \{k\pi + \frac{\pi}{4}\}$

3) $2 \sin^2 x - 3 \neq 0 \Rightarrow \sin^2 x \neq \frac{3}{2}$
 $D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$

$\frac{1}{\sqrt{2|x-2|} - \frac{1}{2}} \Rightarrow 2|x-2| \geq \frac{1}{2} \Rightarrow |x-2| \geq \frac{1}{4}$
 $|x-2| \geq \frac{1}{4} \Rightarrow x-2 \geq \frac{1}{4} \text{ or } x-2 \leq -\frac{1}{4}$
 $x \geq \frac{9}{4} \text{ or } x \leq \frac{7}{4}$
 $D_f = (-\infty, \frac{7}{4}] \cup [\frac{9}{4}, \infty)$

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

ب) $\sqrt{\frac{|x|}{|x|}} \Rightarrow \frac{|x|}{|x|} \geq 0 \Rightarrow |x| \geq 0 \Rightarrow x \geq 0 \text{ or } x \leq 0$
 $D_f = \mathbb{R} - \{0\}$

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