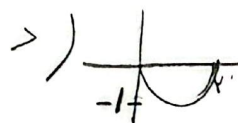
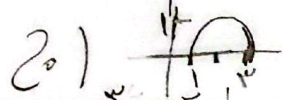


نام و نام خانوادگی: ... شماره: ... کلاس: ...

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✓

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الف) $x^2 - 5x + 6 > 0 \Rightarrow x^2 - 5x + 6 = (x-2)(x-3) > 0$ $(-\infty, 2) \cup (3, \infty)$

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

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

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

الف) $\frac{x^2 - 3x + 2}{x^2 - 4} < 0 \Rightarrow \frac{(x-1)(x-2)}{(x-2)(x+2)} < 0$ $(-\infty, -2) \cup (1, 2) \cup (2, \infty)$

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

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الف) $\sqrt{\frac{x^2 - 1}{x^2 - x - 12}} = 1 \Rightarrow \frac{x^2 - 1}{x^2 - x - 12} = 1$ $(-1, \infty)$

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ب) $\sqrt{\frac{x^2 - 16}{x^2 - 5x + 4}} = 1 \Rightarrow \frac{x^2 - 16}{x^2 - 5x + 4} = 1$ $(-\infty, -4] \cup [1, \infty)$

الف) $\sqrt{4 - \sqrt{2 - x}} = 2 \Rightarrow 4 - \sqrt{2 - x} = 4 \Rightarrow \sqrt{2 - x} = 0 \Rightarrow 2 - x = 0 \Rightarrow x = 2$
 $-1 \leq -x \leq 1 \Rightarrow 1 \geq x \geq -1 \Rightarrow Df = [-1, 1]$

۵

ب) $\sqrt{3 - \sqrt{x - 2}} = 2 \Rightarrow 3 - \sqrt{x - 2} = 4 \Rightarrow \sqrt{x - 2} = -1$ (no solution)
 $2 - \sqrt{x - 2} \geq 0 \Rightarrow \sqrt{x - 2} \leq 2 \Rightarrow x - 2 \leq 4 \Rightarrow x \leq 6$

$-7 \leq x \leq 11 \Rightarrow Df = [2, 11]$

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

(P) ✓

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) $|x| - 3 \neq 0 \Rightarrow |x| \neq 3 \Rightarrow x \neq 3, -3$

$D_f = \mathbb{R} - \{3, -3\}$ 1.75 R⁺ شامل صغرى شرد

ب) $\sqrt{x} - 3 \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9$

$D_f = \mathbb{R}^+ - \{9\}$ [0, +∞) - {9}

الف) $2 \cos x - 1 \neq 0 \Rightarrow 2 \cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{2}$

$D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}$

1.75

ب) $2 \sin x + 1 \neq 0 \Rightarrow \sin x \neq -\frac{1}{2}$

2) $\cot x = 1 \neq 0 \Rightarrow \cot x \neq 1$

3) $2 \sin^2 x - 3 \neq 0 \Rightarrow \sin^2 x \neq \frac{3}{2}$

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

$\Rightarrow 2|x-2| \geq \frac{1}{2} \Rightarrow |x-2| \geq \frac{1}{4} \Rightarrow x-2 \geq \frac{1}{4} \text{ or } x-2 \leq -\frac{1}{4}$
 $x \geq \frac{9}{4} \text{ or } x \leq \frac{7}{4}$

$D_f = (-\infty, \frac{7}{4}) \cup (\frac{9}{4}, \infty)$

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

ب) $\sqrt{\frac{|x|}{|x|}} \Rightarrow \frac{|x|}{|x|} \geq 0 \Rightarrow |x| \geq 0 \Rightarrow x \geq 0 \text{ or } x \leq 0$
 $x \neq 0$

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

$$\frac{(n-1)(n^2+n+1)}{n(n-1)(n+1)} \geq 0 \rightarrow$$

-1	0	1
+	-	+
+	+	+

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