

۴/۴/۲۲

ریاضی دوم دبیر B سه شنبه روز

الف) $(x-1)(x^2-14x+15)$
 $x^2-14x+15=0 \Rightarrow (x-1)(x-15)$
 $x+\frac{1}{x} \quad x+\frac{1}{x} \quad x+1$
 $D_f = R - \left\{ \frac{1}{x}, \frac{1}{x}, \frac{1}{x} \right\}$ ✓

ب) $(x^2-4x-4)(x+1)$
 $x \neq -1 \quad x \neq 2 \quad x \neq -\frac{1}{x}$
 $D_f = R - \left\{ -1, -\frac{1}{x}, 2 \right\}$ ✓

الف) $x \neq \sqrt{3-2x} \Rightarrow x^2 \neq 3-2x \Rightarrow x^2+2x-3 \neq 0 \Rightarrow (x-1)(x+3) \neq 0$
 $D_f = R - \{1, -3\}$
 $x=1$ ✓ $x=-3$ ✗
 $D_f = (-\infty, 1) \cup (-3, \infty)$
 ب) $x \neq \sqrt{2x-1} \Rightarrow x^2 \neq 2x-1 \Rightarrow (x-1)(x-2) \neq 0 \Rightarrow x \neq 1, 2$
 $D_f = R - \{1, 2\}$
 $x=1$ ✗ $x=2$ ✗
 $D_f = (-\infty, 1) \cup (1, 2) \cup (2, \infty)$ ✓

الف) $2\cos x - 1 \neq 0 \Rightarrow \cos x \neq \frac{1}{2} \Rightarrow D_f = R - \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3} \right\}$
 ب) $2\sin x - 1 \neq 0 \Rightarrow \sin x \neq \frac{1}{2} \Rightarrow D_f = R - \left\{ 2k\pi + \frac{\pi}{6}, 2k\pi - \frac{\pi}{6} \right\}$

ج) $\cot x + 1 \Rightarrow \frac{\cos x}{\sin x} + 1 \Rightarrow D_f = R - \left\{ k\pi + \frac{\pi}{2} \right\} \cup \left\{ \frac{k\pi}{2} \right\}$
 $\Rightarrow \sin^2 x + \frac{1}{\sin x} \Rightarrow D_f = R - \left\{ 2k\pi + \frac{\pi}{2}, 2k\pi - \frac{\pi}{2} \right\}$

الف) $x^2-5x+4 > 0 \Rightarrow (x-1)(x-4) > 0$
 $(-\infty, 1) \cup (4, \infty)$
 ب) $x^2-4x+4 < 0 \Rightarrow (x-1)(x-4) < 0$
 $(1, 4)$
 ج) $x^2+4x+4 \geq 0 \Rightarrow (x+1)(x+4) \geq 0$
 $(-\infty, -4] \cup [-1, \infty)$
 د) $x^2-7x+4 < 0 \Rightarrow (x-1)(x-4) < 0$
 $(1, 4)$

الف) $\frac{(x-1)(x-4)}{(x-5)} < 0 \Rightarrow (-\infty, 1) \cup (4, 5) \cup (5, \infty)$
 ب) $\frac{(x+1)(x-1)}{(x-1)(x-5)} \Rightarrow (-\infty, -1) \cup (1, 5) \cup (5, \infty)$

الف) $\frac{(x-1)(x-3)}{x^2-1} > 0$ 1, 8
 $\xrightarrow{x \neq 1} (x-1)(x^2+x+1) \Rightarrow x > 3 \Rightarrow D_f = [3, +\infty)$

ب) $\frac{(x-1)(x-3)}{(x+1)(x-1)} \Rightarrow \frac{x-3}{x+1}$
 علامت من خواصده عبارت با اعداد ۳ بین علامت من خواصده
 $\Rightarrow (-\infty, -1) \cup [3, +\infty)$
 $x^2+1 \quad x \neq \pm 1 \Rightarrow R - \{\pm 1\}$

الف) $x^2-3x > 0 \Rightarrow x(x-3) > 0 \Rightarrow D_f = (-\infty, 0) \cup (3, +\infty)$ 1, 20

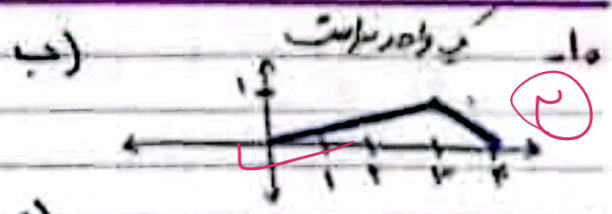
ب) $(x+1)(x-3) > 0$ و $|x| > 2$ و $x \neq \pm 3$ و $x > 2$
 $\Rightarrow x < -2 \Rightarrow D_f = (-\infty, -2) \cup (3, +\infty) - \{\pm 3\}$

ج) $\frac{(x-3)(x-4)}{(x-3)} > 0 \Rightarrow 1-x > 0 \Rightarrow 1 > x \Rightarrow x < 1 \Rightarrow D_f = (-\infty, 1)$

د) $\sqrt{4-x} - x^2 = \sqrt{4-x} - x^2 = 4-x \Rightarrow 4-x > 0 \Rightarrow x < 4$
 $\sqrt{(x-4)(x-4)} \Rightarrow \frac{1}{x-4} - \frac{1}{x-4} \Rightarrow D_f = [4, 4] \quad D_f = (0, 4) - \{1\}$

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

الف) $x = f(x) \Rightarrow [-1, 0] \quad x \neq 0 \Rightarrow [-1, 0)$
 $y = x \Rightarrow [-2, -1)$
 $f(x) \Rightarrow [-2, 2]$
 $D_y = (-2, -1) \cup (2, 4)$ 9



Parstian