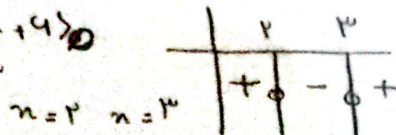


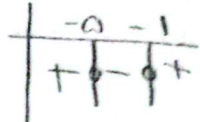
الف) $x^2 - 5x + 4 > 0$
 $x - 2 \quad x - 4$
 $x = 2 \quad x = 4$



$D_f = (-\infty, 2) \cup (4, \infty)$

ج) $x^2 + 4x + 5 > 0$

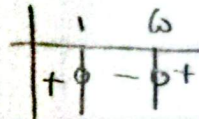
$(x+1)(x+5)$
 $x = -1 \quad x = -5$



$D_f = (-\infty, -5] \cup [-1, \infty)$

ب) $x^2 - 9x + 5 < 0$

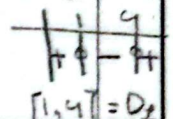
$(x-1)(x-5)$ $x=1 \quad x=5$



$(1, 5) = D_f$

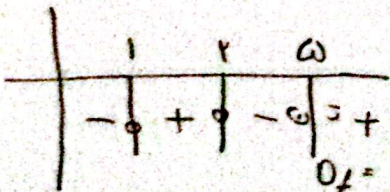
د) $x^2 - 5x + 4 < 0$

$(x-1)(x-4)$
 $x=1 \quad x=4$



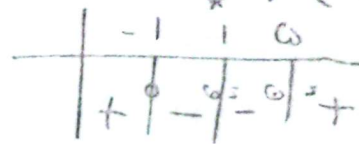
$[1, 4] = D_f$

الف) $\frac{x^2 - 3x + 2}{x - 5} < 0$ $x-1 \quad x-2$ $2, 1, 5$



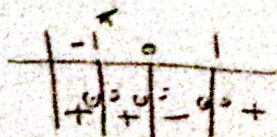
$D_f = (-\infty, 1) \cup (2, 5)$

ب) $\frac{x^2 - 1}{x^2 - 4x + 5} > 0$ $(x-1)(x+1)$ $x = \pm 1$



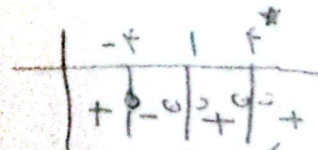
$D_f = (-\infty, -1] \cup (1, \infty)$

الف) $\frac{x^3 - 1}{x^2 - x} > 0$ $\frac{(x+1)(x^2 - x + 1)}{x(x-1)(x+1)} > 0$ $x=0, 1, -1$



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

ب) $\frac{x^2 - 19}{x^2 - 4x + 4} > 0$ $\frac{(x-4)(x+4)}{(x-2)(x-2)} > 0$



$D_f = (-\infty, -4] \cup (2, 4) \cup (4, \infty)$

الف) $\sqrt{x} - \sqrt{x-m} > 0$

$x-m > 0$ $x > m$ $D_f = [-14, 2]$

$2 - \sqrt{x-m} > 0$

$2 > \sqrt{x-m}$

$14 > 2 - m$

$m > -14$

ب) $\sqrt{3} - \sqrt{x-2} > 0$

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

$3 > \sqrt{x-2}$

$9 > x-2$

$11 > x$

$x-2 > 0$ $x > 2$

$D_f = [2, 11]$

الف) $\sqrt{F-2x^2}$ $F-2x^2 \geq 0$ $F \geq 2x^2$ $x \leq \sqrt{\frac{F}{2}}$ $D_f = [-\sqrt{\frac{F}{2}}, \sqrt{\frac{F}{2}}]$ $-\sqrt{\frac{F}{2}} \leq x \leq \sqrt{\frac{F}{2}}$	ب) $\sqrt{3 x -9}$ $3 x -9 \geq 0$ $3 x \geq 9$ $x \geq 3$ $x \leq -3$ or $x \geq 3$ $D_f = (-\infty, -3] \cup [3, \infty)$	6	
الف) $y = \sqrt{\frac{ x +1}{ x -3}}$ $x -3 \neq 0$ $x \neq 3$ $x \neq 3$ $x \neq -3$ $D_f = \mathbb{R} - \{3, -3\}$	ب) $y = \sqrt{\frac{\sqrt{x+1}}{\sqrt{x}-3}}$ $x \geq 0$ $\sqrt{x}-3 \neq 0$ $\sqrt{x} \neq 3$ $x \neq 9$ $D_f = [0, 9) \cup (9, \infty)$	7	
الف) $y = \frac{\sin x}{x \cos x - 1}$ $x \cos x - 1 \neq 0$ $\cos x \neq \frac{1}{x}$ $D_f = \mathbb{R} - \{x \mid x \cos x = 1\}$ ب) $x \sin x + 1 \neq 0$ $\sin x \neq -\frac{1}{x}$ $D_f = \mathbb{R} - \{x \mid x \sin x = -1\}$	ج) $\frac{\sin x}{\cos x} = \tan x$ $\cos x \neq 0$ $\sin x \neq 0$ $\frac{\cos x}{\sin x} \neq 1$ $D_f = \mathbb{R} - \{x \mid \tan x = 1\}$ $D_f = \mathbb{R} - \{x \mid x = k\pi + \frac{\pi}{4}\}$	د) $F \sin^2 x - 1 \neq 0$ $F \sin^2 x \neq 1$ $\sin^2 x \neq \frac{1}{F}$ $\sin x \neq \pm \frac{1}{\sqrt{F}}$ $D_f = \mathbb{R} - \{x \mid \sin x = \pm \frac{1}{\sqrt{F}}\}$	8
$x-2 - \frac{1}{x} \geq 0$ $x-2 \geq \frac{1}{x}$ $x-2 \geq \frac{1}{x}$ $x-2 \geq \frac{1}{x}$ or $x-2 \leq -\frac{1}{x}$ $D_f = (-\infty, \frac{1}{F}) \cup (\frac{1}{F}, \infty)$	$x-2 \geq \frac{1}{x}$ $x-2 \geq \frac{1}{x}$ or $x-2 \leq -\frac{1}{x}$ $D_f = (-\infty, \frac{1}{F}) \cup (\frac{1}{F}, \infty)$	9	
الف) $F-2 x \geq 0$ $F \geq 2 x$ $x \leq \sqrt{\frac{F}{2}}$ $D_f = [-\sqrt{\frac{F}{2}}, \sqrt{\frac{F}{2}}]$	ب) $\sqrt{\frac{ x }{ x }}$ $x \neq 0$ $\frac{ x }{ x } \geq 0$ $D_f = \mathbb{R} - \{0\}$	10	