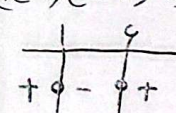
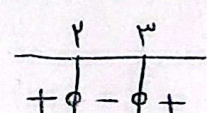
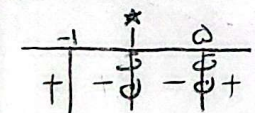
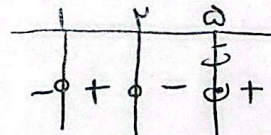


(الف) درمخرج توان زوج = جمع ضرایب توان فرد $(3x^3 - x^2 - 1x - 4) \div (x+1) = 3x^2 - 4x - 4 \Delta$ $\Delta \rightarrow \frac{f \pm \sqrt{16 \pm 41}}{2 \times 3} = \frac{f+1}{6} / \frac{f-1}{6}$ ① ② $-\frac{1}{3}$ $D_f = \mathbb{R} - \left\{ 1, -\frac{1}{3}, -1 \right\}$	(الف) جمع ضرایب درمخرج = 0 $(x^3 - 10x^2 + 31x - 15) + (x-1) = x^3 - 10x^2 + 32x - 16$ $(x^3 - 10x^2 + 32x - 16) \div (x-1) = x^2 - 9x + 16$ $(x^2 - 9x + 16) \div (x-1) = x - 8$ $x \neq \frac{1}{3} \quad x \neq \frac{5}{2} \quad x \neq 1$ $D_f = \mathbb{R} - \left\{ 1, \frac{5}{2}, \frac{1}{3} \right\}$
(الف) $x - \sqrt{3x-2} \neq 0$ $x \neq \sqrt{3x-2}$ $x^2 \neq 3x-2$ $x^2 - 3x + 2 \neq 0$ $(x-1)(x-2) \neq 0$ $x \neq 1 \quad x \neq 2$ $D_f = \left[\frac{2}{3} + \infty \right) - \{1, 2\}$	(الف) $x - \sqrt{3-2x} \neq 0$ $x \neq \sqrt{3-2x}$ $x^2 \neq 3-2x$ $x^2 + 2x - 3 \neq 0$ $(x-1)(x+3) \neq 0$ $x \neq 1$ $D_f = \left(-\infty, \frac{3}{2} \right] - \{1\}$
(الف) $f \sin^2 x - 3 \neq 0$ $f \sin^2 x \neq 3$ $f \sin x \neq \pm \sqrt{3}$ $\sin x \neq \pm \frac{\sqrt{3}}{f}$ $D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{3}, k\pi + \frac{2\pi}{3} \right\}$	(الف) $f \cos x - 1 \neq 0$ $f \cos x \neq 1$ $\cos x \neq \frac{1}{f}$ $D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{3} \right\}$
(الف) $(x-1)(x-4) \leq 0$  [1, 4]	(الف) $(x-2)(x-3) > 0$  $D_f = (-\infty, 2) \cup (3, \infty)$
(الف) $\frac{(x-1)(x+1)}{(x-1)(x-5)} \geq 0$  $D_f = (-\infty, -1] \cup (1, 5)$	(الف) $\frac{(x-1)(x-2)}{x-5} < 0$  $D_f = (1, 2) \cup (5, \infty)$

کتابخانه عمومی

$D_f = [3, 9 + \infty)$

$x^2 - 1 \neq 0$ $x^2 \neq 1$ $x \neq \pm 1$ $R - \{\pm 1\}$	(ب) $\sqrt{\frac{x^2 - 5x + 3}{x^3 - 1}} \geq 0$ $\frac{x^2 - 5x + 3}{x^3 - 1} \geq 0$ $\frac{(x-1)(x-3)}{(x-1)(x^2+x+1)} \geq 0$ (الف) $x^2 + x + 1 \Delta \rightarrow 1 - 4 = -3 < 0$ $a \rightarrow 1 > 0$ مخارجة موجبة باید صورت عبارت مثبت باشد $x - 3 \geq 0$ $x \geq 3$ $x \neq 1$	۶																
(الف) $(x-4)(x-7) \geq 0$ $\frac{f}{x-4} \frac{g}{x-7}$ $(-\infty, 4] \cup [7, +\infty)$ $\sqrt{34 - x^2} \geq 0$ $34 \geq x^2$ $-6 \leq x \leq 6$ $D_f = (0, 4] - \{1\}$	(ب) $\frac{(x-3)(x-4)}{x-3} > 0$ $\frac{x-4}{x-3} > 0$ $10 - x > 0$ $10 > x$ $10 - x \neq 1$ $x \neq 9$ $D_f = (4, 10) - \{9\}$	(ج) $\frac{14 - x^2}{14 > x^2}$ $14 > x^2$ $4 > x$ $-4 < x$ $(-4, 4)$ $ x > 2$ $(2, +\infty)$ $x > 2$ $x < -2$ $D_f = (-\infty, -2) \cup (2, 4) - \{1, 3\}$	۷															
$\frac{x(x-1)}{x(x+1)}$ $\frac{-1}{x} \frac{x}{x+1}$ $\frac{+}{-} \frac{-}{+}$ $+$	<table><tr><td></td><td>-1</td><td>0</td><td>1</td></tr><tr><td>$x^2 - x$</td><td>+</td><td>+</td><td>-</td></tr><tr><td>$x^2 + x$</td><td>+</td><td>-</td><td>+</td></tr><tr><td>y</td><td>+</td><td>-</td><td>+</td></tr></table>		-1	0	1	$x^2 - x$	+	+	-	$x^2 + x$	+	-	+	y	+	-	+	۸
	-1	0	1															
$x^2 - x$	+	+	-															
$x^2 + x$	+	-	+															
y	+	-	+															
$\frac{x - f(x)}{f(x)} \geq 0$ $\frac{-2}{x} \frac{x}{x-1}$ $\frac{-}{+} \frac{+}{-}$ $(-2, -1] \cup (2, 3]$	<table><tr><td></td><td>-2</td><td>-1</td><td>2</td><td>3</td></tr><tr><td></td><td>+</td><td>+</td><td>-</td><td>-</td></tr><tr><td></td><td>-</td><td>+</td><td>-</td><td>+</td></tr></table>		-2	-1	2	3		+	+	-	-		-	+	-	+	۹	
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