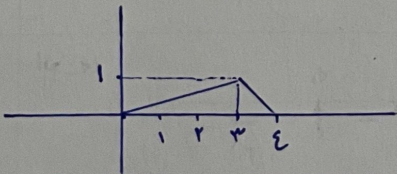
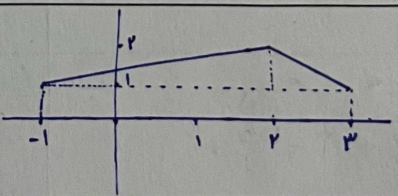
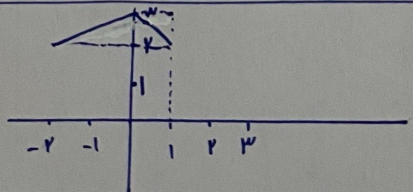


$\frac{x+3}{(x+1)(x+2)(x-2)}$ $D_f = \mathbb{R} - \left\{-1, -\frac{2}{3}, 2\right\}$	$\frac{x+1}{(x-1)(x-3)(x-5)}$ $D_f = \mathbb{R} - \{1, 1, 5, 2, 5\}$	الف	۱
$x - \sqrt{3x-2} \neq 0$ $x \neq \sqrt{3x-2}$ $x^2 + 3x - 2$ $x^2 - 3x + 2 \neq 0$ $(x-1)(x-2) \neq 0$ $x \neq 1, 2$ $D_f = \mathbb{R} - \{1, 2\}$	$x - \sqrt{3-2x} \neq 0$ $x \neq \sqrt{3-2x}$ $x^2 + 3 - 2x$ $x^2 + 2x - 3 \neq 0$ $(x-1)(x+3) \neq 0$ $x \neq -3, 1$ $D_f = \mathbb{R} - \{1, -3\}$	الف	۲
$2 \sin x + 1 \neq 0 \quad x \neq -\frac{1}{2} \quad x \neq \frac{7\pi}{6}, \frac{5\pi}{6}$ $D_f = \mathbb{R} - \left\{2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{5\pi}{6}\right\}$	$2 \cos x - 1 \neq 0 \quad \cos x \neq \frac{1}{2} \quad x \neq \frac{\pi}{3}, \frac{5\pi}{3}$ $D_f = \mathbb{R} - \left\{2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3}\right\}$	الف	۳
$2 \sin^2 x - 3 \neq 0 \quad \sin x \neq \pm \frac{\sqrt{3}}{2}$ $x \neq \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$ $D_f = \mathbb{R} - \left\{2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}, 2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{11\pi}{6}\right\}$	$\cot x - 1 \neq 0 \quad \frac{\cos x}{\sin x} \neq 1 \quad x \neq \frac{\pi}{4}, \frac{5\pi}{4}$ $D_f = \mathbb{R} - \left\{k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4}\right\}$	ج	۳
$(x-1)(x-5) < 0$ $D_f = (1, 5)$	$(x-2)(x-3) > 0$ $D_f = (-\infty, 2) \cup (3, +\infty)$	الف	۴
$(x-4)(x-1) \leq 0$ $D_f = [1, 4]$	$(x+1)(x+5) \geq 0$ $D_f = (-\infty, -5] \cup [-1, +\infty)$	ج	۴
$\frac{(x+1)(x-1)}{(x-5)(x-1)} \geq 0$ $D_f = (-\infty, -1] \cup (5, +\infty)$	$\frac{(x-2)(x-1)}{x-5} < 0$ $D_f = (-\infty, 1] \cup (2, 5)$	الف	۴

(ب) $x^2 - 1 \neq 0 \quad x \neq \pm 1$ $(x-3)(x-1) \geq 0 \Rightarrow x \geq 3$ $D_f = [3, +\infty)$	(الف) $\frac{(x-3)(x-1)}{(x-1)(x^2+x+1)} \geq 0$ $x^2 - 1 \neq 0$ $(x+1)(x-1) \neq 0$ $x \neq \pm 1$ $D_f = \mathbb{R} - \{\pm 1\}$	٦																
(ب) $\begin{cases} 4-x^2 > 0 & 4 > x^2 & -2 < x < 2 \\ x-2 > 0 & x > 2 & -x < x < 2 \\ x-2 \neq 0 & x \neq 2 & x \neq \pm 2 \end{cases} D_f = (-2, 2)$	(الف) $x^2 - 3x > 0 \quad x(x+3) > 0$ $\begin{array}{c} \cdot \quad \cdot \\ + \quad - \quad - \quad + \end{array} \quad D_f = (-\infty, -3] \cup [3, +\infty)$	٧																
(ج) $\sqrt{4-x^2} > 0 \quad 4-x^2 > 0 \quad (4-x)(4+x) > 0 \quad -4 < x < 4$ $x > 0$ $x \neq 0 \quad D_f = (0, 4)$	(ج) $\frac{(x-3)(x-2)}{x-3} > 0$ $x-3 > 0 \quad x > 3$ $x-3 \neq 0 \quad x \neq 3$ $D_f = [2, +\infty)$	٨																
(د) $y = \frac{x(x-1)}{x(x+1)}$ $\begin{array}{c} -1 \quad \cdot \quad 1 \\ + \quad - \quad - \quad + \end{array}$	(١) $y = \frac{x^2 - x}{x^2 + x}$ <table><tr><td></td><td>-1</td><td>0</td><td>1</td></tr><tr><td>$x^2 - x$</td><td>+</td><td>0</td><td>-</td></tr><tr><td>$x^2 + x$</td><td>-</td><td>0</td><td>+</td></tr><tr><td>$p(y)$</td><td>+</td><td>-</td><td>+</td></tr></table>		-1	0	1	$x^2 - x$	+	0	-	$x^2 + x$	-	0	+	$p(y)$	+	-	+	٩
	-1	0	1															
$x^2 - x$	+	0	-															
$x^2 + x$	-	0	+															
$p(y)$	+	-	+															
(ب) 	(الف) 	١٠																
(د) 	(ج) 