

$$\begin{array}{r} \text{الف) } 4x^3 - 2x^2 + 3x + 10 \quad | \quad x-1 \\ \underline{-4x^3 + 4x^2} \\ -14x^2 + 31x + 10 \\ \underline{+14x^2 - 14x} \\ 15x - 10 \\ \underline{-15x + 15} \\ 5 \end{array}$$

$$(2x-3)(2x-5)(x-1) \neq 0$$

(1)

$$D_f = \mathbb{R} - \left\{ \frac{3}{2}, \frac{5}{2}, 1 \right\}$$

$$\begin{array}{r} \text{ب) } 3x^3 - x^2 - 8x - 4 \quad | \quad x+1 \\ \underline{-3x^3 + 3x^2} \\ -4x^2 - 8x - 4 \\ \underline{+4x^2 + 4x} \\ -4x - 4 \\ \underline{+4x + 4} \\ 0 \end{array}$$

$$x^2 - 4x + 4 = (x-2)^2$$

$$D_f = \mathbb{R} - \left\{ -1, -\frac{2}{3}, 2 \right\}$$

$$\text{الف) } 3 - 2x > 0 \rightarrow x < \frac{3}{2}$$

$$x \neq \frac{3}{2} \text{ و } 1$$

$$x - \sqrt{3-2x} \neq 0 \rightarrow x \neq \sqrt{3-2x} \rightarrow x^2 \neq 3-2x \rightarrow (x+2)(x-1) \neq 0$$

$$D_f = (-\infty, \frac{3}{2}] - \left\{ \frac{1}{2} \right\}$$

(2)

$$\text{ب) } 3x - 2 > 0 \rightarrow x > \frac{2}{3}$$

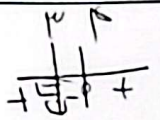
$$x \neq \frac{2}{3} \text{ و } 1$$

$$x - \sqrt{3x-2} \neq 0 \rightarrow x \neq \sqrt{3x-2} \rightarrow x^2 \neq 3x-2 \rightarrow (x-1)(x-2) \neq 0$$

$$D_f = \left[\frac{2}{3}, +\infty \right) - \{1, 2\}$$

$$\text{الف) } 2 \cos x - 1 \neq 0 \rightarrow \cos x \neq \frac{1}{2} \quad D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{3} \right\}$$

$$\text{ب) } 2 \sin x + 1 \neq 0 \rightarrow \sin x \neq -\frac{1}{2} \rightarrow D_f = \mathbb{R} - \left\{ 2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$$

ج) $\frac{(x-3)(x-5)}{x-9} > 0$  $D_f = (3, 5) \cup (9, \infty)$

$10 - x > 0 \rightarrow x < 10$

$10 - x \neq 1 \rightarrow x \neq 9$

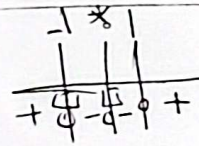
✓

د) $(x-7)(x-4) > 0$  $D_f = (0, 4] \cup (7, \infty)$

$36 - x^2 > 0 \rightarrow 36 > x^2 \rightarrow -6 < x < 6$

$x > 0$

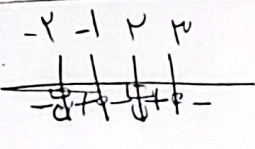
$x \neq 1$

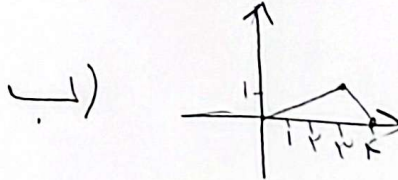
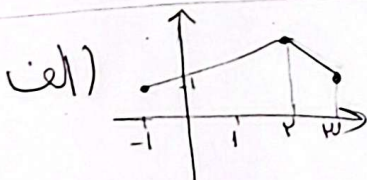
روش سریع $y = \frac{x(x-1)}{x(x+1)}$ 

روش آرایه‌بندی

	-1	0	1	
$x^2 - x$	+	+	0	-
$x^2 + x$	+	0	-	+
$P(x)$	+	+	-	+

⋈

$\frac{x - f(x)}{f(x)} > 0$  $D_f = (-2, -1] \cup (2, 3]$ ۹



⊙

