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	1 $f(x), 2$
	2 $2 \cdot f(x)$
$x^2 - 4x + 5 \leq 0$ $(x-1)(x-5) \leq 0$ $D_f = (1, 5)$	3 $x^2 - 4x + 4 > 0$ $(x-2)(x-2) > 0$ $D_f = (-\infty, 2) \cup (2, +\infty)$
$x^2 - 4x + 4 \leq 0$ $(x-1)(x-4) \leq 0$ $D_f = [1, 4]$	4 $x^2 + 9x + 20 \geq 0$ $(x+1)(x+5) \geq 0$ $D_f = (-\infty, -5] \cup [-1, +\infty)$
$x^2 - 1 = 0$ $x^2 - 4x + 4 = (x-2)(x-2)$ $D_f = (-\infty, 1] \cup (4, +\infty)$	5 $x^2 - 2x + 1 = (x-1)(x-1)$ $D_f = (-\infty, 1) \cup (1, +\infty)$
$x^2 - 14 = 0$ $x^2 - 2x + 2 = (x-1)(x-2)$ $D_f = (-\infty, -2] \cup (1, 2) \cup (2, +\infty)$	6 $x^2 - 1 = x(x^2 - \frac{1}{x})$ $x^3 - x = x(x^2 - 1)$ $D_f = \mathbb{R} \setminus \{-1, 0, 1\}$
$x - 2 > 0 \Rightarrow x > 2$ $2 - \sqrt{2-x} > 0 \Rightarrow \sqrt{2-x} < 2 \Rightarrow 2-x < 4 \Rightarrow x > -2$ $x \leq 11$ $D_f = 2 < x \leq 11 \Rightarrow [2, 11]$	7 $2 - x \geq 0 \Rightarrow x \leq 2$ $2 - \sqrt{2-x} \geq 0 \Rightarrow \sqrt{2-x} \leq 2 \Rightarrow 2-x \leq 4 \Rightarrow x \geq -2$ $2 - x \leq 14 \Rightarrow -12 \leq x$ $-12 \leq x \leq 2 \Rightarrow D_f = [-12, 2]$

$3 x - 9 > 0 \Rightarrow 3 x > 9 \quad (\rightarrow)$ $\Rightarrow x > 3 \Rightarrow$ $D_f = (-\infty, -3] \cup [3, +\infty)$	$7 - 2x^2 > 0 \Rightarrow 2x^2 < 7$ $\Rightarrow x^2 < \frac{7}{2} = -\sqrt{2} \leq x \leq \sqrt{2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$	۶
$\sqrt{x} \Rightarrow x \geq 0$ $\sqrt{x} - 3 \neq 0 \Rightarrow \sqrt{x} \neq 3$ $\Rightarrow x \neq 9 \Rightarrow$ $D_f = \mathbb{R}^+ - \{9\} \cup \{0\}$	$ x - 3 \neq 0 \Rightarrow x \neq 3 \Rightarrow$ $x \neq \pm 3$ $D_f = \mathbb{R} - \{-3, 3\}$	۷
$\tan x = \frac{\sin x}{\cos x} \Rightarrow \cos x \neq 0 \quad (\rightarrow)$ $\cot x = \frac{\cos x}{\sin x} \Rightarrow \sin x \neq 0$ $D_f = \mathbb{R} - \left\{ \frac{k\pi}{2}, k\pi + \frac{\pi}{2} \right\}$	$2\cos x - 1 \neq 0 \Rightarrow 2\cos x \neq 1 \quad (\rightarrow)$ $\Rightarrow \cos x \neq \frac{1}{2}$ $D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{3} \right\}$	۸
$2\sin^2 x \neq 3 \Rightarrow \sin^2 x \neq \frac{3}{2} \Rightarrow \sin x \neq \pm \frac{\sqrt{3}}{2} \quad (\rightarrow)$ $D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{3} \right\}$	$2\sin x + 1 \neq 0 \Rightarrow 2\sin x \neq -1 \quad (\rightarrow)$ $\Rightarrow \sin x \neq -\frac{1}{2}$ $D_f = \mathbb{R} - \left\{ 2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$	۹
$2 x-2 - \frac{1}{x} > 0 \Rightarrow 2 x-2 > \frac{1}{x} \Rightarrow x-2 > \frac{1}{2x} \Rightarrow x-2 > \pm \frac{1}{2x} \quad (\rightarrow)$ $\Rightarrow x > \frac{9}{2}$ $x > \frac{5}{2}$ $D_f = (-\infty, \frac{5}{2}) \cup (\frac{9}{2}, +\infty)$		۹
$D_f = \mathbb{R} - \{0\}$ چون همواره صورت و مخرج هم علامت هستند و زیر رادیکال مثبت فقط زمانی که مخرج تعریف شده است جزء حالات نیست	$2 - 2 x > 0$ $\left. \begin{array}{l} 2 x < 2 \\ x < 1 \\ -1 < x < 1 \end{array} \right\} \Rightarrow D_f = [-1, 1]$	۱۰