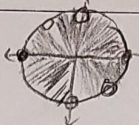
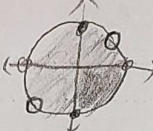


الف) $\cos x + 1 \neq 0 \Rightarrow \cos x \neq -1 \Rightarrow \cos x \neq -\frac{1}{1} \Rightarrow D_f: \mathbb{R} - \left\{ 2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{\pi}{2} \right\}$ ✓

ب) $\cos x - 1 \neq 0 \Rightarrow \cos x \neq 1 \Rightarrow D_f: \mathbb{R} - \{ 2k\pi \}$ ✓

(۲)

ج) $\tan x + 1 \neq 0 \Rightarrow \tan x \neq -1$  $\Rightarrow D_f: \mathbb{R} - \left\{ 2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{5\pi}{4} \right\}$ ✓

د) $\cot x - 1 \neq 0 \Rightarrow \cot x \neq 1$  $\Rightarrow D_f: \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4} \right\}$ ✓

(۲)

هـ) $-1 \leq x^2 - 2 \leq 1 \Rightarrow 1 \leq x^2 \leq 3 \Rightarrow 1 \leq x \leq \sqrt{3}$
 $\rightarrow -\sqrt{3} \leq x \leq \sqrt{3}$
 $x \neq 1, x \neq -1$ $D_f = [-\sqrt{3}, -1] \cup [1, \sqrt{3}]$

و) $-1 \leq \sqrt{x} - 2 \leq 1 \Rightarrow 2 \leq \sqrt{x} \leq 4 \Rightarrow 4 \leq x \leq 16 \Rightarrow D_f = [4, 16]$ ✓

(۱/۵)

ز) $-1 \leq |x| - 3 \leq 1 \Rightarrow 2 \leq |x| \leq 4 \Rightarrow \left\{ \begin{array}{l} 2 \leq x \leq 4 \\ -2 \geq x \geq -4 \end{array} \right\} \Rightarrow D_f = [-4, -2] \cup [2, 4]$ ✓

(۱/۵)

ح) $-1 \leq x^2 + 3x + 1 \leq 1 \Rightarrow -2 \leq x^2 + 3x \leq 0 \Rightarrow -2 \leq x(x+3) \leq 0 \Rightarrow D_f: [0, 3]$

$\frac{-2}{+1-1} \frac{-1}{-1+} \quad \frac{-3}{+1-1} \frac{0}{-1+} \quad D_f = [-3, -2] \cup [-1, 0]$

ط) $x^2 - 4 > 0 \Rightarrow x^2 > 4 \Rightarrow x > 2$
 $x < -2$ $D_f = (-\infty, -2) \cup (2, \infty)$ ✓

(۲)

ث) $2 - |x| > 0 \Rightarrow 2 > |x| \Rightarrow -2 < x < 2 \Rightarrow D_f = (-2, 2)$ ✓

۵

الف) $\omega > x > 0 \Rightarrow \omega > x$

$x - 3 > 0 \Rightarrow x > 3$

$x - 3 \neq 1 \Rightarrow x \neq 4$

سؤال ۶

$\frac{x+3}{x-2} > 0$

$\frac{-3}{+ \phi - \phi +}$

$x > 3$
 $x \leq -3$

$D_f = (-\infty, -3) \cup (3, +\infty) - \{4\}$

۲

$x + \omega > 0 \Rightarrow x > -\omega$

$x + \omega \neq 1 \Rightarrow x \neq 1 - \omega$

الف) $\frac{x^2 - 2x + 3}{x - 3} > 0$

$\frac{(x-1)(x-3)}{x-3} > 0$

$\frac{1}{- \phi + \phi +}$ $D_f = (1, +\infty) - \{3\}$

۲

سؤال ۶

الف) $x^2 - 1 > 0 \Rightarrow x^2 > 1 \Rightarrow x > 1$

$x + 3 > 0 \Rightarrow x > -3$

$x + 3 \neq 1 \Rightarrow x \neq -2$

$D_f = (-3, -1) \cup (1, +\infty) - \{2\}$

الف) $x - 2 > 0 \Rightarrow x > 2$

$\frac{3 - \log(x-2)}{2} \geq 0$

$3 \geq \log(x-2)$

$x - 2 \leq 1 \Rightarrow x \leq 3$

$D_f = (2, 3]$

$\Rightarrow x > 0$

$2 \log \frac{x}{3} - 1 > 0 \Rightarrow 2 \log \frac{x}{3} > 1 \Rightarrow \log \frac{x}{3} > \frac{1}{2} \Rightarrow x > \sqrt{3}$

۲

الف) $f^x + 1 \neq 0 \rightarrow f^x + 1$ همیشه $D_f = \mathbb{R}$

ب) $f^x \neq 1 \Rightarrow x \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$

ج) $f^x - 2 \neq 0 \Rightarrow f^x \neq 2 \Rightarrow x \neq \frac{1}{f} \Rightarrow D_f = \mathbb{R} - \{\frac{1}{f}\}$

۲

د) $f^x - 3 \neq 0 \Rightarrow f^x \neq 3 \Rightarrow x \neq \log_f 3 \Rightarrow D_f = \mathbb{R} - \{\log_f 3\}$

الف) $f(x+1) \in w_{D_f}(x) \mid x = \frac{k}{f}, k \in \mathbb{W} \} \cup \{ \}$

$x = \frac{k-1}{f}$

ب) $\frac{f(x-1)}{f(x-1)} \in w_{D_f}(x) \mid x = \frac{k-1}{f}, k \in \mathbb{W} \}$

۱, ۱۵۰