

نام و نام خانوادگی شماره کلاس (هم رختی) B

الف) $2 \cos x + 1 \neq 0 \rightarrow 2 \cos x \neq -1 \rightarrow \cos x \neq -\frac{1}{2} \rightarrow D_f = \mathbb{R} - \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3} \right\}$

ب) $\cos x - 1 \neq 0 \rightarrow \cos x \neq 1 \rightarrow D_f = \mathbb{R} - \{2k\pi\}$

الف) $\tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4}$
 $\cos x \neq 0 \rightarrow x \neq k\pi + \frac{\pi}{2}$
 $D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{2} \right\}$

ب) $\cot x - 1 \neq 0 \rightarrow \cot x \neq 1 \rightarrow x \neq k\pi + \frac{\pi}{4}$
 $\sin x \neq 0 \rightarrow x \neq k\pi$
 $D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4} \right\}$

الف) $-1 \leq x^2 - 2 \leq 1 \rightarrow 1 \leq x^2 \leq 3 \rightarrow 1 \leq x \leq \sqrt{3} \rightarrow D_f = [1, \sqrt{3}]$

ب) $x \geq 0$
 $-1 \leq \sqrt{x} - 3 \leq 1 \rightarrow 2 \leq \sqrt{x} \leq 4 \rightarrow 4 \leq x \leq 16 \rightarrow D_f = [4, 16]$

الف) $-1 \leq |x| - 3 \leq 1 \rightarrow 2 \leq |x| \leq 4 \rightarrow 2 \leq x \leq 4, -4 \leq x \leq -2$

$D_f = [-4, -2] \cup [2, 4]$

ب) $-1 \leq x^2 + 3x + 1 \leq 1 \rightarrow -1 \leq x^2 + 3x + 1 \rightarrow 0 \leq x^2 + 3x + 2 \quad (I)$
 $x^2 + 3x + 1 \leq 1 \rightarrow x^2 + 3x \leq 0 \quad (II)$

$\frac{-3}{2} \leq x \leq 0 \quad (III), \quad \frac{-3}{2} \leq x \leq 0 \quad (I) \rightarrow D_f = (I) \cap (II) \rightarrow [-3, -2] \cup [-1, 0]$

الف) $x^2 - 4 > 0 \rightarrow x^2 > 4 \rightarrow x > 2 \text{ or } x < -2 \rightarrow D_f = (-\infty, -2) \cup (2, +\infty)$

ب) $2 - |x| > 0 \rightarrow 2 > |x| \rightarrow -2 < x < 2 \rightarrow D_f = (-2, 2)$

$$\text{الف) } \left. \begin{array}{l} \omega - x > 0 \rightarrow x < \omega \\ x - 3 > 0 \rightarrow x > 3 \\ x - 3 \neq 1 \rightarrow x \neq 4 \end{array} \right\} D_f = (3, \omega) - \{4\}$$

$$\text{ب) } \left. \begin{array}{l} x^2 - 1 > 0 \rightarrow x^2 > 1 \rightarrow \frac{x > 1}{x < -1} \\ x + 3 > 0 \rightarrow x > -3 \\ x + 3 \neq 1 \rightarrow x \neq -2 \end{array} \right\} D_f = (-3, -1) - \{-2\} \cup (1, +\infty)$$

$$\text{الف) } \frac{x^2 - 4x + 3}{x - 3} > 0 \rightarrow \frac{(x-1)(x-3)}{x-3} > 0 \xrightarrow{\text{تبسيط}} \frac{1}{x-1} > 0$$

$$\text{ب) } \left. \begin{array}{l} x + 5 > 0 \rightarrow x > -5 \text{ I} \\ x + 5 \neq 1 \rightarrow x \neq -4 \text{ II} \\ \frac{x+3}{x-2} > 0 \xrightarrow{\text{تبسيط}} \frac{-3}{x-2} > 0 \rightarrow x < 2 \text{ III} \end{array} \right\} D_f = (-5, -4) \cup (2, +\infty)$$

$$\rightarrow I \cap II \cap III \rightarrow D_f = (-5, -4) - \{-4\} \cup (2, +\infty)$$

$$\text{الف) } 3 - \log_p(x-2) \geq 0 \rightarrow 3 \geq \log_p(x-2) \rightarrow (x-2) < 1 \rightarrow x < 3$$

$$x - 2 > 0 \rightarrow x > 2$$

$$D_f = (2, 3]$$

$$\text{ب) } 2 \log_p^x - 1 > 0 \rightarrow 2 \log_p^x > 1 \rightarrow \log_p^x > \frac{1}{2} \rightarrow x > p^{\frac{1}{2}}$$

$$x > \sqrt{p}$$

$$D_f = (\sqrt{p}, +\infty)$$

$$\text{الف) } e^{x+1} \neq 0 \rightarrow \underbrace{e^x \neq -1}_{\text{امكانه}} \rightarrow D_f = \mathbb{R}$$

$$\text{ب) } e^{x-1} \neq 0 \rightarrow e^x \neq 1 \rightarrow x \neq \log_e 1 \rightarrow x \neq 0 \rightarrow D_f = \mathbb{R} - \{0\}$$

$$\text{ج) } e^{x-2} \neq 0 \rightarrow e^x \neq 2 \rightarrow \log_e^2 \neq x \rightarrow x \neq \frac{1}{2} \rightarrow D_f = \mathbb{R} - \{\frac{1}{2}\}$$

$$\text{د) } e^{x-3} \neq 0 \rightarrow e^x \neq 3 \rightarrow x \neq \log_e^3 \rightarrow D_f = \mathbb{R} - \{\log_e^3\}$$

$$\text{الف) } kx + 1 \in \mathbb{W} \rightarrow kx \in \mathbb{W} - 1 \rightarrow x \in \frac{\mathbb{W} - 1}{k}$$

$$\text{ب) } \frac{3x-2}{2x-5} \in \mathbb{W} \rightarrow 3x-2 = 2wx-5w \rightarrow D_f = \{x \mid x = \frac{k-1}{k}, k \in \mathbb{W}\}$$

$$\rightarrow \frac{3x-2wx}{x(3-2w)} = 2-5w \rightarrow x = \frac{2-5w}{3-2w}$$

$$\rightarrow D_f = \{x \mid x = \frac{5k-2}{2k-3}, k \in \mathbb{W}\}$$