

نام و نام خانوادگی: (نام و نام خانوادگی) پاسنامه تشریحی تکلیف شماره ۵۰۰ ... کلاس (همچنین) ۱۹۵۰

(الف) $2\cos x + 1 \neq 0 \rightarrow 2\cos x \neq -1 \rightarrow \cos x \neq -\frac{1}{2}$

$R = \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3} \right\}$ ✓

(ب) $\cos x - 1 \neq 0 \rightarrow \cos x \neq 1 \rightarrow R = \{ 2k\pi \}$ (۲)

(الف) $\tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow k\pi - \frac{\pi}{4}$
 $\tan = \frac{\sin}{\cos} \rightarrow \cos \neq 0 \rightarrow k\pi + \frac{\pi}{2}$
 $\rightarrow R = \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{2} \right\}$ (۲) ✓

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

(الف) $-1 \leq x^2 - 2 \leq 1 \rightarrow 1 \leq x^2 \leq 3 \rightarrow \begin{cases} -1 \leq x \leq +1 \\ +1 \leq x \leq +\sqrt{3} \end{cases}$
 $D_f = [-\sqrt{3}, -1] \cup [1, \sqrt{3}]$ ✓ (۲)

(ب) $-1 \leq \sqrt{x} - 2 \leq 1 \rightarrow 2 \leq \sqrt{x} \leq 4 \xrightarrow{\text{توان ۲}} 4 \leq x \leq 16 \rightarrow D_f = [4, 16]$ ✓

(الف) $-1 \leq |x| - 3 \leq 1 \rightarrow 2 \leq |x| \leq 4 \rightarrow \begin{cases} -2 \leq x \leq -4 \\ 2 \leq x \leq 4 \end{cases} \rightarrow D_f = [-4, -2] \cup [2, 4]$ ✓

(ب) $-1 \leq x^2 + 3x + 1 \leq 1 \rightarrow -2 \leq x^2 + 3x \leq 0$
 $D_f = [-3, -2] \cup [-1, 0]$ (۲) ✓
 $-2 \leq x^2 + 3x \rightarrow x^2 + 3x + 2 \geq 0 \rightarrow (x+2)(x+1) \geq 0 \rightarrow \begin{cases} x \leq -2 \\ x \geq -1 \end{cases}$
 $0 \leq x^2 + 3x \rightarrow x(x+3) \leq 0 \rightarrow \begin{cases} -3 \leq x \leq 0 \\ x \geq 0 \end{cases}$

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

(ب) $2 - |x| > 0 \rightarrow 2 > |x| \rightarrow -2 < x < 2 \rightarrow D_f = (-2, 2)$ (۲) ✓

$a - x > 0 \rightarrow -x > -a \rightarrow x < a$ $x - 3 > 0 \rightarrow x > 3$ $x - 3 \neq 1 \rightarrow x \neq 4$ $D_f = (3, a) - \{4\}$	الف	٦
$x^2 - 1 > 0 \rightarrow x^2 > 1 \rightarrow x > 1, x < -1$ $x + 3 > 0 \rightarrow x > -3$ $x + 3 \neq 1 \rightarrow x \neq -2$ $D_f = (-3, -1) \cup (1, +\infty) - \{-2\}$	ب	٧
$\frac{x^2 - 4x + 3}{x - 3} > 0 \rightarrow x \neq 3 \rightarrow \frac{(x-3)(x-1)}{x-3} \rightarrow \frac{1}{-1 + \frac{1}{x-3}} \rightarrow D_f = (1, +\infty) - \{3\}$	الف	٧
$\frac{x+3}{x-2} > 0 \rightarrow \frac{-3}{+1} + \frac{5}{-1} +$ $D_f = (-\infty, -2) \cup (2, +\infty) - \{-4\}$ $x + 5 > 0 \rightarrow x > -5$ $x + 5 \neq 1 \rightarrow x \neq -4$ $-5 \geq x > -4$	ب	٧
$3 - \log_2^{x-2} > 0 \rightarrow 3 > \log_2^{x-2} \rightarrow x-2 \leq 2^3 \rightarrow x-2 \leq 8 \rightarrow x \leq 10$ $x-2 > 0 \rightarrow x > 2 \rightarrow D_f = (2, 10]$	الف	٨
$2 \log_3^x - 1 \geq 0 \rightarrow 2 \log_3^x \geq 1 \rightarrow \log_3^x \geq \frac{1}{2} \rightarrow x > 0, x \geq \sqrt{3}$ $x > 0$ $D_f = [\sqrt{3}, +\infty)$	ب	٨
$2^x + 1 \neq 0 \rightarrow 2^x \neq -1 \rightarrow D_f = \mathbb{R}$	الف	٩
$2^x - 1 \neq 0 \rightarrow 2^x \neq 1 \rightarrow x \neq 0 \rightarrow D_f = \mathbb{R} - \{0\}$	ب	٩
$2^x - 2 \neq 0 \rightarrow 2^x \neq 2 \rightarrow x \neq 1 \rightarrow D_f = \mathbb{R} - \{1\}$	ج	٩
$2^x - 3 \neq 0 \rightarrow 2^x \neq 3 \rightarrow D_f = \mathbb{R} - \{\log_2^3\}$	د	٩
$f(x+1) \in W \rightarrow \frac{x}{f} \in \frac{W-1}{f} \rightarrow x \in \frac{W-1}{f} \rightarrow D_f = \{x \mid x = \frac{k-1}{f}, k \in W\}$	الف	١٠
$\frac{3x-2}{2x-5} \in W \rightarrow 3x-2 = 2Wx-5W \rightarrow 3x-2Wx = -5W+2$ $x = \frac{-5W+2}{3-2W} \rightarrow D_f = \{x \mid x = \frac{5k-2}{2k-3}, k \in W\}$	ب	١٠