

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره 9 کلاس 9A

الف) I $x^2 = 4x$
 $x = \{0, 4\}$
 II $x^2 = x \Rightarrow x = \{0, 1\}$

$D_f = (-1, 0) \cup (0, 1) \cup [4, +\infty)$

ب) I $x^2 = x^2 \Rightarrow x = \{0, 1\}$
 II $x^2 = x \Rightarrow x = \{0, 1\}$

$D_f = \mathbb{R} - \{0, 1\}$

الف) $\sqrt{x+|x|} \geq 0 \Rightarrow x \geq |x| \Rightarrow D_f = \mathbb{R}^+ \rightarrow (0, +\infty)$

ب) $\sqrt{|x|} > 0 \Rightarrow |x| > 0 \Rightarrow D_f = \mathbb{R}^+ \rightarrow (0, +\infty)$

الف) $2 - [x] \geq 0 \Rightarrow 2 \geq [x] \Rightarrow x < 3 \Rightarrow D_f = (-\infty, 3)$

ب) $2 - [x] > 0 \Rightarrow 2 > [x] \Rightarrow x < 2 \Rightarrow D_f = (-\infty, 2)$

الف) $[x - \frac{1}{2}] + [x + \frac{1}{2}] \geq 0 \Rightarrow [x + \frac{1}{2}] - 1 + [x + \frac{1}{2}] \geq 0$

$[x + \frac{1}{2}] \geq \frac{1}{2} \Rightarrow [x + \frac{1}{2}] \geq 1 \Rightarrow x \geq \frac{1}{2} \Rightarrow D_f = [\frac{1}{2}, +\infty)$

ب) $[x - \frac{1}{2}] + [\frac{1}{2} - x] \geq 0 \Rightarrow [x] + [-x] \geq 0 \Rightarrow x \rightarrow 0 \Rightarrow x = \{0\}$

$x - \frac{1}{2} = -1 \Rightarrow x = -\frac{1}{2}$
 $x - \frac{1}{2} = 0 \Rightarrow x = \frac{1}{2}$
 $D_f = \{-\frac{1}{2}, \frac{1}{2}\}$

الف) $\sin x \neq 1 \Rightarrow D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{2} \mid k \in \mathbb{Z}\}$

ب) $\sin^2 x - 1 \neq 0 \Rightarrow \sin^2 x \neq \frac{1}{2} \Rightarrow \sin x \neq \pm \frac{1}{\sqrt{2}}$

$D_f = \mathbb{R} - \{\frac{k\pi}{2} + \frac{\pi}{4} \mid k \in \mathbb{Z}\}$

ا) $|\sin n - 1| \geq 0 \Rightarrow \sin n \geq \frac{1}{r} \Rightarrow D_f = [rk\pi + \frac{\pi}{4}, rk\pi + \frac{5\pi}{4}]$

ب) $\cos n - 1 \geq 0 \Rightarrow \cos n \geq 1 \Rightarrow \cos n = 1$

$D_f = \{rk\pi \mid k \in \mathbb{Z}\}$

ا) $-1 \leq \cos y \leq 1 \Rightarrow -1 \leq |n| - c \leq 1$

$r \leq |n| \leq 2 \Rightarrow D_f = [-2, -r] \cup [r, 2]$

ب) $-1 \leq \arcsin(n^r + c_{n+1}) \leq 1 \Rightarrow -1 \leq n^r + c_{n+1}$

$\Rightarrow 0 \leq (n+1)(n+2) \Rightarrow -n \geq -1 \leq n \leq r$

$n^r + c_{n+1} \leq 1 \Rightarrow n(n+c) \leq 0 \Rightarrow -c \leq n \leq 0 \Rightarrow D_f = [-r, -2] \cup [-1, 0]$

ا) $r \geq \log_p(n-2) \Rightarrow n-2 > 0 \Rightarrow n > 2 \quad \text{I}$
 $\text{II } n-2 \leq 9 \Rightarrow n \leq 11 \Rightarrow D_f = (2, 11]$

ب) $x^r - x > 0 \Rightarrow x(\frac{x}{r} - 1)(\frac{x}{r} + 1) > 0$

$D_f = (-1, 0) \cup (1, +\infty)$

ا) $r^n \neq -1 \quad r^n \rightarrow \frac{0}{0} \Rightarrow D_f = \mathbb{R}$

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

ج) $r^n \neq r \Rightarrow D_f = \mathbb{R} - \{\frac{1}{r}\}$

د) $r^n \neq c \quad n \neq \log \frac{c}{r} \Rightarrow D_f = \mathbb{R} - \{\log \frac{c}{r}\}$

ا) $r_{n+1} \in \mathbb{W} \Rightarrow r_n \in \frac{\mathbb{W}-1}{2} \Rightarrow D_f = \{\frac{k-1}{2} \mid k \in \mathbb{W}\}$

ب) $\frac{c_{n-r}}{r_{n-d}} \in \mathbb{W} \Rightarrow \frac{-d\mathbb{W}+r}{-r\mathbb{W}+c} = n \Rightarrow D_f = \{\frac{-dk+r}{-rk+c} \mid k \in \mathbb{W}\}$