

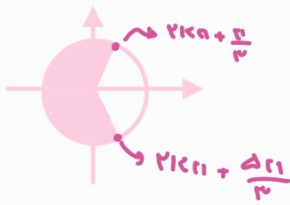
نام و نام خانوادگی ... (لطفاً بنویسید) ... پاسخنامه تشریحی تکلیف شماره ... کلاس ... (لطفاً بنویسید) ...

$1) y = \frac{x+3}{2x^2+3x-1}$ $2) y = \frac{x+c}{2x^2+3x+1}$	$(x-1)(2x^2+3x-1)$ $(x-1)(2x^2+3x+1)$	$D_f = \mathbb{R} - \left\{ \frac{1}{2}, 1, -3 \right\}$ $D_f = \mathbb{R} - \left\{ -1, -\frac{1}{2}, -3 \right\}$	1
$3) y = \frac{x+c}{x^2-2x^2+2x-1}$ $4) y = \sqrt{\frac{x+c}{x^2-2x^2+2x-1}}$	$(x-1)(x^2-x+1)$ $\frac{-3}{x^2-2x^2+2x-1}$	$D_f = \mathbb{R} - \{1\}$ $D_f = (-\infty, 1] \cup (1, +\infty)$	2
$y = \frac{2}{x^2-5 x-1 -2x+5}$ $x > 1 \rightarrow x^2 - \sqrt{x+10} \rightarrow x=2, 5$ $x=1 \rightarrow x^2 - 2x+5 \rightarrow \Delta < 0$ $x < 1 \rightarrow x^2 + 3x \rightarrow x=0, -3$	$D_f = \mathbb{R} - \{-3, 0, 2, 5\}$		3
$y = \sqrt{-x-2}$ $y = \frac{\partial x^2 + 2}{[x]^2 - 2[x] - 3}$	$[-x] \geq 2 \Rightarrow x \leq -2$ $[x]^2 - 2[x] - 3 = 0$ $[x] = -1 \quad [x] = 3$	$D_f = \mathbb{R} - \left(\left[\frac{1}{2}, 4 \right) \cup \left(1, 0 \right] \right)$	4
$5) y = \sqrt{\left[x - \frac{1}{2} \right] + \left[x + \frac{1}{2} \right]}$ $\Rightarrow x + \frac{1}{2} \geq 1 \Rightarrow x \geq \frac{1}{2} \rightarrow D_f$ $6) y = \sqrt{\left[x - \frac{1}{2} \right] \cdot \left[\frac{1}{2} - x \right]}$	$\left[x - \frac{1}{2} \right] + \left[x + \frac{1}{2} \right] \geq 0 \Rightarrow \left[x + \frac{1}{2} - 1 \right] + \left[x + \frac{1}{2} \right] \geq 0$ $2 \left[x + \frac{1}{2} \right] - 1 \geq 0 \Rightarrow \left[x + \frac{1}{2} \right] \geq \frac{1}{2}$ $\left[x - \frac{1}{2} \right] + \left[-\left(x - \frac{1}{2} \right) \right]$	$x - \frac{1}{2} \in \mathbb{Z} \Rightarrow y=0$ $x - \frac{1}{2} \in \mathbb{Z} \Rightarrow y=-1x$	5

$$D_f = \left\{ x \mid x = k + \frac{1}{2} \in \mathbb{Z} \right\}$$

$\text{الف) } y = \frac{\cos x + 1}{\tan x + 1}$	$\left. \begin{aligned} \tan x \neq -1 &\Rightarrow x \neq \left\{ k\pi - \frac{\pi}{4} \right\} \\ \sin x \neq 0 &\Rightarrow x \neq \{ k\pi \} \\ \cos x \neq 0 &\Rightarrow x \neq \left\{ k\pi + \frac{\pi}{2} \right\} \end{aligned} \right\} D_f = \mathbb{R} - \left\{ k\pi, k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{2} \right\}$	
$\text{ب) } y = \sqrt{1 - 4\sin^2 x}$	$1 - 4\sin^2 x \geq 0 \Rightarrow 1 \geq 4\sin^2 x \Rightarrow \frac{1}{2} \leq \sin^2 x \leq \frac{1}{2}$ $D_f = \left[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right]$	
$\text{الف) } y = \sqrt{4\sin x - 1}$	$4\sin x \geq 1 \Rightarrow \sin x \geq \frac{1}{4} \Rightarrow D_f = \left[k\pi + \arcsin\left(\frac{1}{4}\right), k\pi + \frac{\pi}{2} \right]$	$1, 1, 5$
$\text{ب) } y = \sqrt{1 - 2\cos x}$	$1 \geq 2\cos x \Rightarrow \frac{1}{2} \geq \cos x \Rightarrow D_f = \left[k\pi + \frac{\pi}{3}, k\pi + \frac{5\pi}{3} \right]$	$+ \frac{2\pi}{c}$
$y = \arcsin(x^2 + 2x + 1)$	$\begin{aligned} -1 \leq x^2 + 2x + 1 \leq 1 \\ -1 \leq x^2 + 2x \rightarrow \frac{-2}{2} \leq \frac{-1}{1} \\ 0 \leq x^2 + 2x \rightarrow \frac{-2}{2} \leq \frac{0}{1} \end{aligned}$ $D_f = [-2, -1] \cup [0, 1]$	1
$\text{الف) } y = \log_{\frac{1}{2}}(1 - \log_{\frac{1}{2}} x)$	$1 - \log_{\frac{1}{2}} x > 0 \Rightarrow 1 > \log_{\frac{1}{2}} x \Rightarrow \frac{1}{2} < x < 1$	$1, 5$
$\text{ب) } y = \log_{\frac{1}{2}}(1 - \log_{\frac{1}{2}} \frac{1}{x})$	$1 - \log_{\frac{1}{2}} \frac{1}{x} > 0 \Rightarrow 1 > \log_{\frac{1}{2}} \frac{1}{x} \Rightarrow \frac{1}{2} < \frac{1}{x} < 1$	
$\text{الف) } y = \sqrt{x^2 - 1}$	$x^2 - 1 \geq 0 \Rightarrow x^2 \geq 1 \Rightarrow x \leq -1 \text{ or } x \geq 1$ $D_f = (-\infty, -1] \cup [1, \infty)$	1
$\text{ب) } y = \left(\frac{x^2 + 1}{x^2 + 4} \right)!$	$\frac{x^2 + 1}{x^2 + 4} \in \mathbb{N} \Rightarrow \frac{x^2 + 1}{x^2 + 4} = 1 \Rightarrow x^2 + 1 = x^2 + 4 \Rightarrow 1 = 4$ $D_f = \{ x \mid x = \frac{3 - \sqrt{5}}{2}, k \in \mathbb{N} \}$	

ب- ١ $1 - 2c \sin \theta > 0 \rightarrow c \sin \theta \leq \frac{1}{2} \rightarrow Df_c \left[r_k \pi + \frac{\pi}{2}, r_{k+1} \pi + \frac{3\pi}{2} \right]$



الف- ١ $y = \log_r (1 - \log_r^n)$ $\rightarrow \log_r^n \rightarrow n > 0$
 $\hookrightarrow 1 - \log_r^n > 0 \rightarrow \log_r^n < 1 \rightarrow n < r$

$Df_z (0, r)$

ب- ١ $y = \log_r (1 - \log_{\frac{1}{r}}^n)$ $\rightarrow \log_{\frac{1}{r}}^n \rightarrow n > 0$
 $\hookrightarrow 1 - \log_{\frac{1}{r}}^n > 0 \rightarrow \log_{\frac{1}{r}}^n < 1 \xrightarrow{\text{منابع (1,0)}} n > \frac{1}{r}$

$Df_z \left(\frac{1}{r}, +\infty \right)$