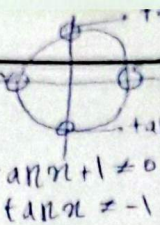
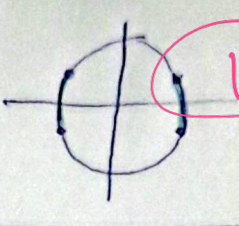
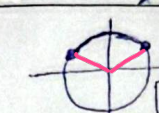
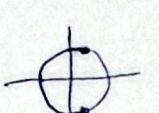
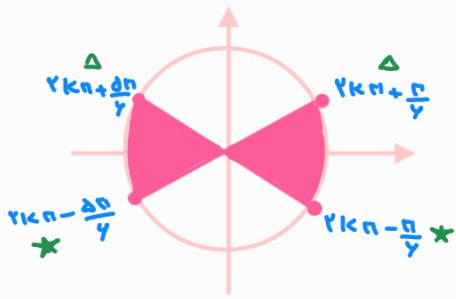


نام و نام خانوادگی <u>طاهره جعفری</u> پاسخنامه تشریحی تکلیف شماره ۳۳ کلاس <u>۱۷/۱۷۵</u> <u>صفا بابت اصل هدی که نوشتم + دامنه تابعی (جواب)</u> مثلاً بنویس! الف) $y = \frac{x+3}{(x-1)(x+3)(x+\frac{1}{3})}$ $x \in \mathbb{R} - \{1, -3, -\frac{1}{3}\}$ ب) $y = \frac{x+3}{(x+1)(x+3)(x+\frac{1}{3})}$ $x \in \mathbb{R} - \{-1, -3, -\frac{1}{3}\}$	۱
الف) $y = \frac{x+3}{x^3 - 2x^2 + 2x - 1} \rightarrow \frac{x+3}{(x^3 - x + 1)(x-1)}$ $x \in \mathbb{R} - \{1\}$ $\Delta < 0$ ب) $y = \sqrt{\frac{x+3}{x^3 - 2x^2 + 2x - 1}} \rightarrow \sqrt{\frac{x+3}{(x^3 - x + 1)(x-1)}} + \frac{3}{x-1} + \frac{1}{x+3}$ $x \in (-\infty, -3] \cup (1, +\infty)$	۲
if $x \geq 1$ $y = \frac{2}{x^2 - 7x + 10} \sim \frac{2}{(x-5)(x-2)}$ $x \in ([1, +\infty)) \cap (\mathbb{R} - \{5, 2\}) \rightarrow x \in [1, +\infty) - \{5, 2\}$ if $x < 1$ $y = \frac{2}{x^2 + 3x} \rightarrow \frac{2}{x(x+3)}$ $x \in ((-\infty, 1) \cap (\mathbb{R} - \{0, -3\})) \rightarrow x \in (-\infty, 1) - \{0, -3\}$ اجتماع	۳
الف) $y = \sqrt{[-x]-2} \rightarrow [-x] \geq 2$ $x \leq -2$ ب) $y = \frac{5x^2 + 7}{[x]^2 - 2[x] - 3} \sim \frac{5x^2 + 7}{([x]-3)([x]+1)}$ $x \in \mathbb{R} - ([3, 4] \cup [-1, 0])$	۴
الف) $y = \sqrt{[x - \frac{1}{x}] + [x + \frac{2}{x}]} \rightarrow [x + \frac{2}{x}] \geq \frac{1}{x} \rightarrow x + \frac{2}{x} \geq 1$ $[x + \frac{2}{x}] - 1$ $x \geq \frac{1}{x}$ ب) $y = \sqrt{[x - \frac{1}{x}] + [\frac{1}{x} - x]} \rightarrow [Z] + [-Z] \geq 0$ $x - \frac{1}{x} \in \mathbb{Z}$ $\{x \mid x = k, -k \in \mathbb{Z} + \frac{1}{x}\}$ فقط اعداد صحیح $[Z]$ $[-Z]$	۵

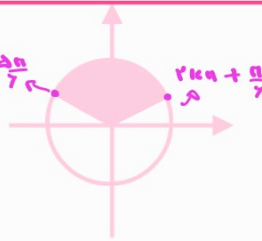
الف) $y = \frac{\cot x + 1}{\tan x + 1} \rightarrow \tan x + 1 \neq 0$ $\tan x \neq -1 \quad x \neq \left\{ \frac{3\pi}{4}, \frac{7\pi}{4} \right\}$ ب) $y = \sqrt{1 - \varepsilon \sin x} \rightarrow \sin x \leq \frac{1}{\varepsilon} \quad -\frac{1}{\varepsilon} \leq \sin x \leq \frac{1}{\varepsilon}$ Def: $[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4}]$ $x \in [k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4}]$	 $x \in \mathbb{R} - \left\{ \frac{2k\pi}{\varepsilon}, \frac{k\pi}{\varepsilon}, \frac{k\pi + \pi}{\varepsilon} \right\}$	$k \in \mathbb{Z}$  1, 8
الف) $y = \sqrt{r \sin x - 1} \rightarrow \sin x \geq \frac{1}{r}$ توابع نامرئی معادله ای دارند! ب) $y = \sqrt{1 - r \cos x} \rightarrow \cos x \leq \frac{1}{r}$	 $x \in [2k\pi + \frac{\pi}{4}, 2k\pi + \frac{3\pi}{4}]$  $\mathbb{R} - [2k\pi - \frac{\pi}{4}, 2k\pi + \frac{\pi}{4}]$	1, 8
الف) $y = \arcsin(x^2 + 3x + 1) \rightarrow -1 \leq x^2 + 3x + 1 \leq 1 \rightarrow -1 \leq (x + \frac{3}{2})^2 - \frac{9}{4} \leq 1$ $\frac{1}{4} \leq (x + \frac{3}{2})^2 \leq \frac{9}{4} \rightarrow \frac{1}{2} \leq x + \frac{3}{2} \leq \frac{3}{2} \rightarrow -1 \leq x \leq 0$ $\frac{1}{2} \leq x + \frac{3}{2} \leq \frac{3}{2} \rightarrow -\frac{1}{2} \leq x + \frac{3}{2} \leq -\frac{1}{2} \rightarrow x^2 = 0 \rightarrow x = \pm 0$ ب) $y = \cos y = \sqrt{a - 2x} \rightarrow 0 \leq \sqrt{a - 2x} \leq 1 \rightarrow (0 \leq a - 2x \leq 1) \rightarrow x \leq \frac{a}{2} \leq \frac{a+1}{2}$	$-1 \leq x \leq 0$ $x^2 = 0 \rightarrow x = \pm 0$ $x \leq \frac{a}{2} \leq \frac{a+1}{2}$	1, 8
الف) $y = \log_p(1 - \log_\mu x)$ ب) $y = \log_p(1 - \log_\mu \frac{1}{x})$	$1 - \log_\mu x > 0 \rightarrow \log_\mu x < 1 \rightarrow x < \mu$ $\log_\mu \frac{1}{x} < 1 \rightarrow x > \frac{1}{\mu}$	1, 8
الف) $y = \sqrt{\frac{\varepsilon x - x^2}{r} - \lambda} \rightarrow \frac{\varepsilon x - x^2}{r} \geq \lambda \rightarrow \varepsilon x - x^2 \geq r\lambda$ ب) $y = \left(\frac{rx + d}{rx + e} \right)!$	$\varepsilon x - x^2 \geq r\lambda \rightarrow x^2 - \varepsilon x + r\lambda \leq 0$ $1 \leq x \leq \mu$ $\{x \mid k \in \mathbb{Z}, x = \frac{-\varepsilon k + d}{rk - e}\}$	1, 8

$$4- \text{ب) } 1 - r \sin^2 n \geq 0 \rightarrow r \sin^2 n \leq 1 \rightarrow \sin^2 n \leq \frac{1}{r} \rightarrow -\frac{1}{r} \leq \sin n \leq \frac{1}{r}$$

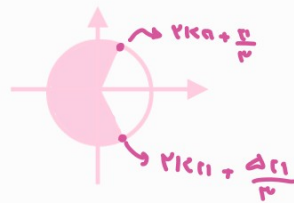


$$\rightarrow D_f = [r \cos(n - \frac{\pi}{4}), r \cos(n + \frac{\pi}{4})]$$

$$5- \text{الف) } r \sin n - 1 \geq 0 \rightarrow \sin n \geq \frac{1}{r} \rightarrow D_f = [r \cos(n + \frac{\pi}{r}), r \cos(n + \frac{\Delta n}{r})]$$



$$5- \text{ب) } 1 - r \cos n \geq 0 \rightarrow \cos n \leq \frac{1}{r} \rightarrow D_f = [r \cos(n + \frac{\pi}{r}), r \cos(n + \frac{\Delta n}{r})]$$



$$8- \text{الف) } -1 \leq x^r + w_n + 1 \leq 1 \rightarrow -1 \leq x^r + w_n + \frac{q}{\varepsilon} - \frac{\Delta}{\varepsilon} \leq 1$$

$$\frac{1}{\varepsilon} \leq x^r + w_n + \frac{q}{\varepsilon} \leq \frac{q}{\varepsilon} \rightarrow \frac{1}{\varepsilon} \leq (n + \frac{w}{r})^r \leq \frac{q}{\varepsilon}$$

$$\int (n + \frac{w}{r})^r \leq \frac{q}{\varepsilon} \rightarrow -\frac{r}{r} \leq n + \frac{w}{r} \leq \frac{r}{r} \rightarrow -r \leq n \leq 0 \quad I$$

$$\int (n + \frac{w}{r})^r \geq \frac{1}{\varepsilon} \rightarrow n + \frac{w}{r} \geq \frac{1}{r} \rightarrow n \geq -1 \quad \text{II} \quad n + \frac{w}{r} \leq -\frac{1}{r} \rightarrow n \leq -r \quad \text{II}$$

$$I \cap \text{II} \rightarrow D_f = [-r, -r] \cup [-1, 0]$$

$$9- \text{ب) } y = \log_y (1 - \log \frac{n}{r}) \rightarrow \log \frac{n}{r} \rightarrow n > 0$$

$$\hookrightarrow 1 - \log \frac{n}{r} > 0 \rightarrow \log \frac{n}{r} < 1 \xrightarrow{\text{منابع (1,0)}} n > \frac{1}{r}$$

$$D_f = (\frac{1}{r}, +\infty)$$

$$9 \text{ - الف } y = \log_2 (1 - \log_3^n) \rightarrow \log_3^n \rightarrow n > 0$$

$$\rightarrow 1 - \log_3^n > 0 \rightarrow \log_3^n < 1 \rightarrow n < 3$$

$$Df_z(0, 3)$$