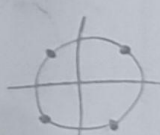
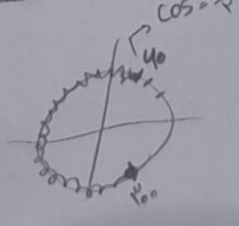
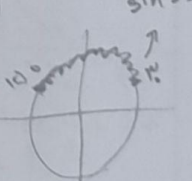


الف $\sqrt{x-2} \geq 0$ $x-2 \geq 0$ $x \geq 2$ $11 \geq x$ $D_f = [2, 11]$	الف $\sqrt{2-x} \geq 0$ $2-x \geq 0$ $x \leq 2$ $x \geq -14$ $D_f = [-14, 2]$	۱
الف $\sqrt{3 x -9} \geq 0$ $3 x -9 \geq 0$ $3 x \geq 9$ $ x \geq 3$ $x \geq 3 \quad x \leq -3$ $D_f = (-\infty, -3] \cup [3, +\infty)$	الف $\sqrt{4-2x^2} \geq 0$ $4-2x^2 \geq 0$ $2 \geq x^2$ $x^2 \leq 2$ $-\sqrt{2} \leq x \leq \sqrt{2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$	۲
الف $\sqrt{x-3} \neq 0$ $\sqrt{x} \neq 3$ $x \neq 9$ $\sqrt{x} \geq 0$ $x \geq 0$ $D_f = [0, +\infty) - \{9\}$	الف فرجه فرد ← حقیق نباید صفر باشد $ x -3 \neq 0$ $ x \neq 3$ $x \neq \pm 3$ $D_f = \mathbb{R} - \{-3, 3\}$	۳
الف $ x -1 \neq 0$ $ x \neq 1$ $x \neq \pm 1$ $\sqrt{4-x^2} \geq 0$ $4-x^2 \geq 0$ $x^2 \leq 4$ $-2 \leq x \leq 2$ $D_f = [-2, 2] - \{-1, 1\}$	الف $ x +2 \neq 0$ $ x \neq -2$ همیشه مثبت $\sqrt{3- x } \geq 0$ $3- x \geq 0$ $3 \geq x \Rightarrow -3 \leq x \leq 3$ $D_f = [-3, 3]$	۴
الف $\sqrt{x x } > 0$ $x x > 0$ $\oplus \vee \ominus \times \odot$ $D_f = \mathbb{R}^+$	الف $\sqrt{x+ x } > 0$ $x+ x > 0$ $\odot \times \oplus \vee \ominus$ $D_f = \mathbb{R}^+ \text{ یا } (0, +\infty)$	۵

ب $\left. \begin{array}{l} \sqrt{2-x} > 0 \\ 2-x > 0 \end{array} \right\} \begin{array}{l} x < 2 \\ x < 2 \end{array}$ $D_f = (-\infty, 2)$	الف $\left. \begin{array}{l} \sqrt{2-x} \geq 0 \\ 2-x \geq 0 \end{array} \right\} \begin{array}{l} x \leq 2 \\ x \leq 2 \end{array}$ $D_f = (-\infty, 2)$	٦
ب $\sqrt{-x[x]} > 0$ همیشه علامت اند. $-x[x] > 0$ $\leftarrow$ پس $x[x]$ همیشه نامنفی است. $\downarrow$ $D_f = \emptyset$ زیرا $-x[x]$ حتماً نامنفی و مثبت نیست.	الف مخرج نباید منفی باشد $x[x] \neq 0$ $x \neq [0, 1)$ $D_f = \mathbb{R} - [0, 1)$	٧
ب $\sqrt{[x-\frac{1}{x}] + [-(x-\frac{1}{x})]} \Rightarrow$ $\sqrt{[a] + [-a]} \quad a \in \mathbb{Z} \quad x - \frac{1}{x} \in \mathbb{Z}$ if $\begin{cases} a \in \mathbb{Z} \Rightarrow [a] + [-a] = 0 \\ a \notin \mathbb{Z} \Rightarrow [a] + [-a] = -1 \end{cases}$ $D_f = \{x \mid x = k + \frac{1}{x}, k \in \mathbb{Z}\}$	الف $[x - \frac{1}{x}] + [x + \frac{x}{x}] \geq 0$ $[x + \frac{x}{x} - 1] + [x + \frac{x}{x}] \geq 0$ $[x + \frac{x}{x}] - 1 + [x + \frac{x}{x}] \geq 0$ $2[x + \frac{x}{x}] \geq 1$ $[x + \frac{x}{x}] \geq \frac{1}{2} \rightarrow x + \frac{x}{x} \geq \frac{1}{2}$ $[x + \frac{x}{x}] \geq 1 \rightarrow x \geq \frac{1}{x} \quad D_f = [\frac{1}{x}, +\infty)$	٨
ب $\frac{\cos x}{\sin x} + 1 \quad \sin x \neq 0 \Rightarrow k\pi$ $\frac{\sin x}{\cos x} + 1 \quad \cos x \neq 0 \Rightarrow k\pi + \frac{\pi}{2}$ $\tan x + 1 \neq 0 \Rightarrow \tan x \neq -1 \Rightarrow \frac{\sin x}{\cos x} \neq -1$ $D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\} \quad k\pi - \frac{\pi}{2}$	الف $2\sin^2 x - 1 \neq 0$ $2\sin^2 x \neq 1$ $\sin^2 x \neq \frac{1}{2}$ $\sin x \neq \pm \frac{1}{\sqrt{2}} \Rightarrow \pm \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \pm \frac{\sqrt{2}}{2}$ $D_f = \mathbb{R} - \{k\pi + \frac{\pi}{4}, k\pi - \frac{\pi}{4}\}$ 	٩
ب $\sqrt{1-2\cos x} \geq 0$ $1-2\cos x \geq 0$ $1 \geq 2\cos x$ $\frac{1}{2} \geq \cos x$  $D_f = [2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3}]$	الف $\sqrt{2\sin x - 1} \geq 0$ $2\sin x - 1 \geq 0$ $2\sin x \geq 1$ $\sin x \geq \frac{1}{2}$  $D_f = [2k\pi + \frac{\pi}{6}, 2k\pi + \pi - \frac{\pi}{6}]$	١٠