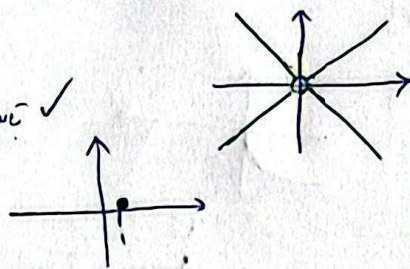


$$a^2 + 3 \leq 4a \rightarrow a^2 - 4a + 3 \leq 0 \rightarrow (a-1)(a-3) \leq 0 \rightarrow \boxed{a=1} \quad \boxed{a=3}$$

۱. از این $a=1$ و $a=3$

۲. تابع $y = \pm |x|$ و $y = x^2$ $\xrightarrow{x \leq 2}$

ب) $|y| \leq 1 \rightarrow y \leq 1$ و $y \geq -1$ $\xrightarrow{\text{جمع در نهایت منفی}}$
 $\sqrt{x-1} \leq 0 \rightarrow x \leq 1$ $\xrightarrow{\text{صفر شود پس صفر و منفی}}$



الف) $|y-1| = 1 \rightarrow y-1 \leq 1$ و $y-1 \geq -1$ $\xrightarrow{x \leq 2}$ $\rightarrow y \leq 2$ و $y \geq 0$ $\rightarrow y \in [0, 2]$

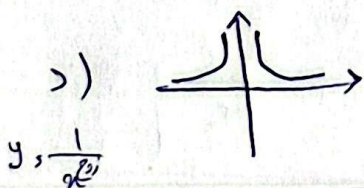
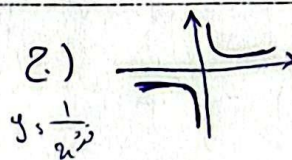
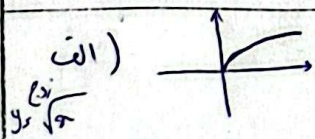
ب) $y(y^2-1) \leq 0 \rightarrow y \leq 0$ و $y \geq 1$ و $y \leq 1$ $\rightarrow y \in (-\infty, 0] \cup [1, \infty)$

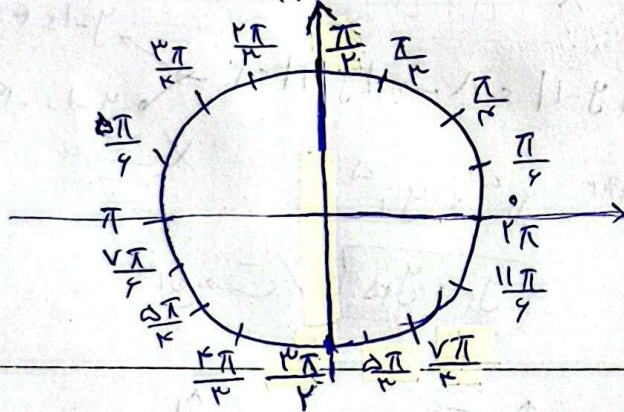
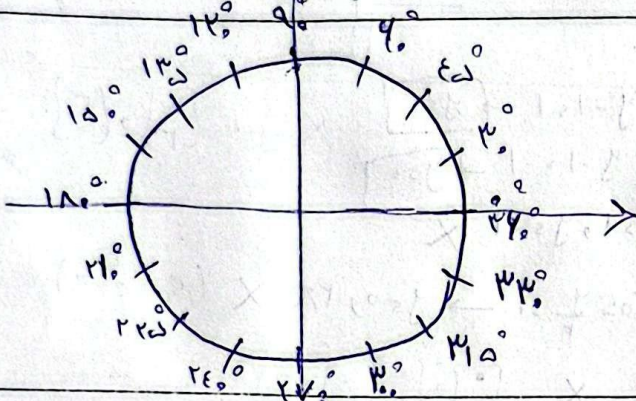
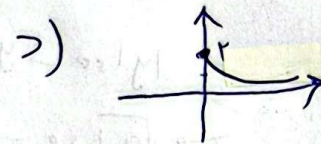
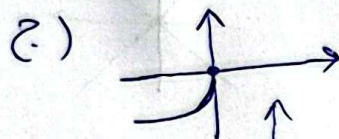
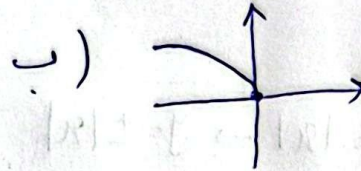
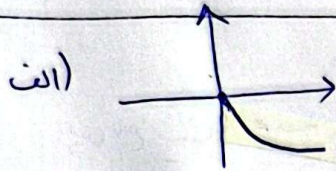
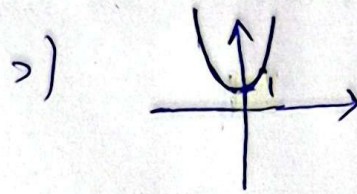
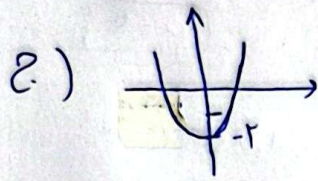
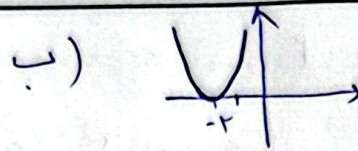
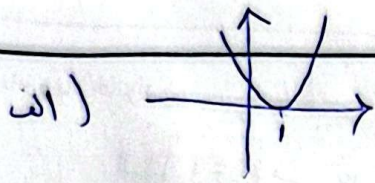
ج) $\cos^2 \frac{y}{4} \leq 1 \rightarrow \cos \frac{y}{4} \leq 1$ $\rightarrow y \leq 4\pi$ و $y \geq 0$ $\rightarrow y \in [0, 4\pi]$

د) $x \leq 0 \rightarrow 0 \leq 0 \rightarrow y \in \mathbb{R}$ $\rightarrow [0, 1], [1, 2], [2, 3], \dots$

الف) $4 + |y-1| \leq 8 \rightarrow |y-1| \leq 4$ $\xrightarrow{x \leq 2}$

ب) $y_1 = -2x_1 + 6$ و $y_2 = -2x_2 + 6$ $\xrightarrow{x_1 \leq x_2}$ $y_1 \leq y_2$ $\rightarrow \boxed{y_1 \leq y_2}$ $\checkmark$ تابع هست





الف) $= -\frac{1}{\sqrt{2}}$ ب) $= \frac{1}{\sqrt{2}}$

ج) $= \frac{1}{\sqrt{2}}$

د) $= -\frac{1}{\sqrt{2}}$

$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} \cos \\ \sin \end{bmatrix}$

$135^\circ = \left[\frac{1}{\sqrt{2}} \right] / 135^\circ : \left[\begin{matrix} -\frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} \end{matrix} \right]$

$\frac{5\pi}{4} = 225^\circ = \left[\begin{matrix} -\frac{1}{\sqrt{2}} \\ -\frac{1}{\sqrt{2}} \end{matrix} \right]$

$\frac{11\pi}{4} = 315^\circ : \left[\begin{matrix} \frac{1}{\sqrt{2}} \\ -\frac{1}{\sqrt{2}} \end{matrix} \right]$