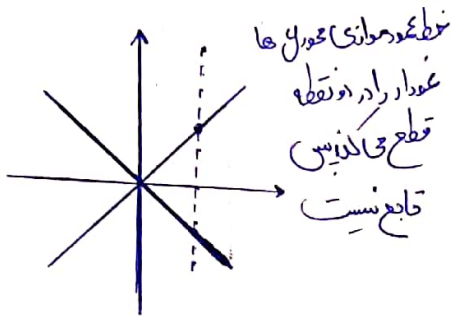


$$(1, 6a) = (1, a^2 + 3)$$

$$\Rightarrow 6a = a^2 + 3 \Rightarrow a^2 - 6a + 3 = 0$$

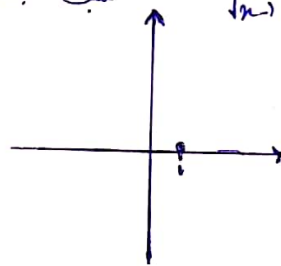
$$\hookrightarrow (a-3)(a-1) \begin{cases} a=3 \\ a=1 \end{cases}$$

الف



$$\frac{1}{y+1} + \frac{1}{\sqrt{x-1}} = 0$$

$$y=0 \Rightarrow \sqrt{x-1} = 0 \Rightarrow x=1$$



تابع است.

$$|y-1| = \sqrt{x-2} \Rightarrow |y-1| = 1$$

$$\Rightarrow \textcircled{1} y-1=1 \Rightarrow y=2 \quad \text{تابع نیست} \quad \text{X}$$

$$y-1=-1 \Rightarrow y=0$$

$$\sin^2 x + \cos^2 x = 1 \quad \text{تابع نیست} \quad \text{X}$$

$$\cos^2 x = 1 \rightarrow \cos x = \pm 1 \Rightarrow x = 0, \pi, 2\pi, 3\pi, \dots$$

$$\text{ب} \quad y^2 - y = \frac{x^2}{4} \Rightarrow y^2 - y = 0$$

$$\Rightarrow y(y-1) = 0 \quad \text{تابع نیست} \quad \text{X}$$

$$\textcircled{1} y=0$$

$$\textcircled{2} y=1$$

$$2xy = x \Rightarrow y=0 \Rightarrow y=R \quad \text{تابع نیست}$$

الف

$$x^2 + |y-1| = 4x \Rightarrow |y-1| = 4-x^2$$

$$\Rightarrow |y-1| = 4-x^2 \quad \text{تابع نیست} \quad \text{X}$$

$$\hookrightarrow y-1 = \pm(4-x^2) \Rightarrow y-1=3 \Rightarrow y=4$$

$$y-1=-3 \Rightarrow y=-2$$

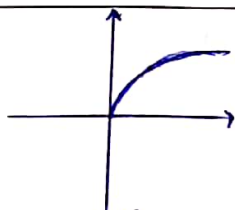
$$\text{ب} \quad y^2 + 3x = 0 \Rightarrow y^2 = -3x$$

$$\begin{cases} y_1^2 = -3x_1 \\ y_2^2 = -3x_2 \end{cases} \xrightarrow{x_1=x_2} y_1^2 = y_2^2$$

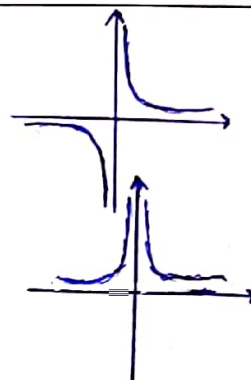
$$\hookrightarrow y_1 = y_2$$

تابع است.

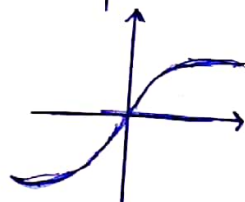
$$\text{الف} \quad y = \sqrt{x}$$



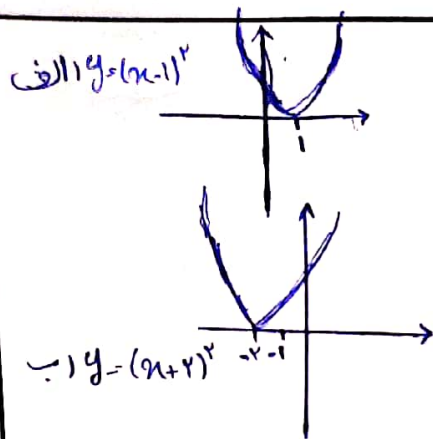
$$\text{ج} \quad y = \frac{1}{x^2}$$



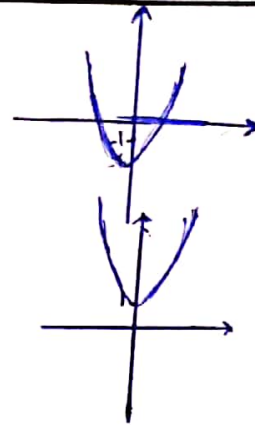
$$\text{د} \quad y = \sqrt{x}$$



$$\text{و} \quad y = \frac{1}{x^2}$$

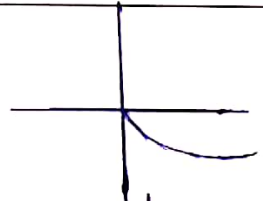


ج) $y = x^2 - 2$

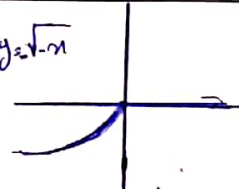


د) $y = x^2 + 1$

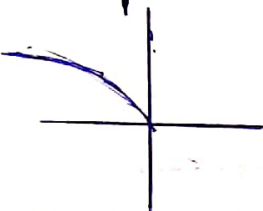
الف) $y = -\sqrt{x}$



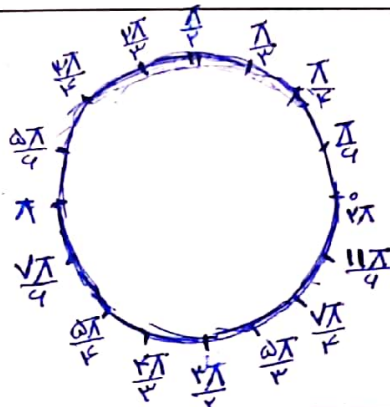
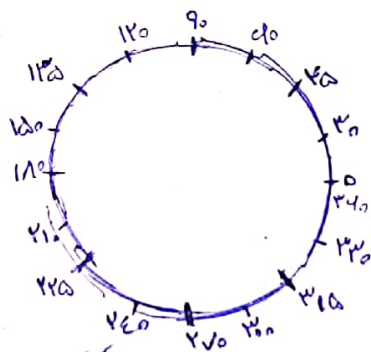
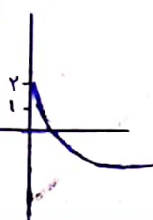
ج) $y = \sqrt{-x}$



ب) $y = \sqrt{-x}$



د) $y = \sqrt{x+2}$



الف) $\cos 150^\circ = -\frac{1}{2}$

ج) $\cos \frac{5\pi}{6} = -\frac{1}{2}$

د) $\sin \frac{11\pi}{6} = -\frac{1}{2}$

ب) $\sin 150^\circ = \frac{1}{2}$