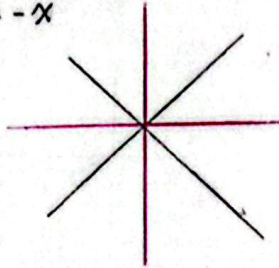


$$1^x = x^2 + 3 \rightarrow x^2 - 1^x + 3 = 0 \quad \begin{cases} x=1 \\ x=3 \end{cases}$$

۱

الف) $y=x$ یا $y=-x$

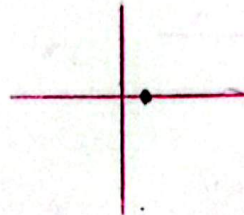
تابع است



ب) $\sqrt{x-1}$, $x \geq 1$

$y=0$, $x=1$

فقط در صفر درست است



تابع است

۲

الف) $x=3 \rightarrow |y-1|=\sqrt{1} \rightarrow |y-1|=1 \rightarrow y-1=\pm 1 \rightarrow \begin{cases} y=2 \\ y=0 \end{cases}$ تابع نیست

ب) $x=0 \rightarrow y(y^4-1)=0 \rightarrow \begin{cases} y=0 \\ y^4-1=0 \rightarrow y=1 \end{cases}$ تابع نیست

ج) $x=0 \rightarrow 0 + \cos^2 \frac{y}{2} = 1 \rightarrow \cos^2 \frac{y}{2} = 1 \rightarrow \cos \frac{y}{2} = \pm 1$ تابع نیست

د) $x=0 \rightarrow y=\infty$ تابع نیست

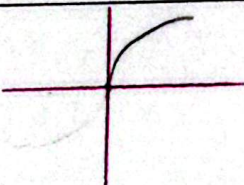
۳

الف) $x=1 \rightarrow 1 + |y-1|=4 \rightarrow |y-1|=3 \rightarrow y-1=\pm 3 \rightarrow \begin{cases} y=4 \\ y=-2 \end{cases}$ تابع نیست

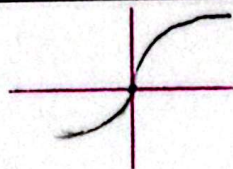
ب) $\begin{cases} (x_1, y_1) \in f \\ (x_2, y_2) \in f \end{cases} \rightarrow \text{if } x_1=x_2 \rightarrow y_1=y_2 \rightarrow y=y$ تابع است

۴

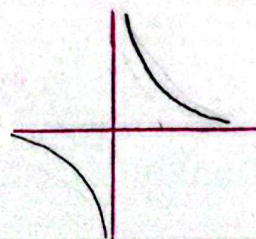
الف)



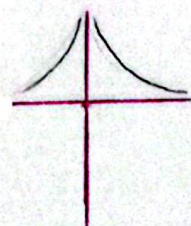
ب)



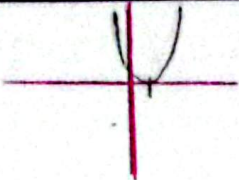
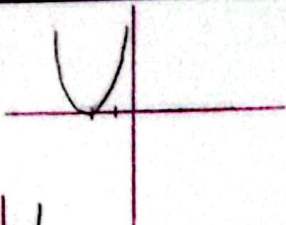
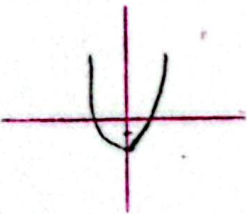
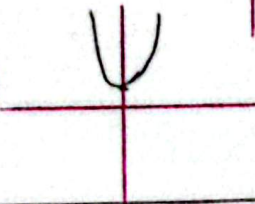
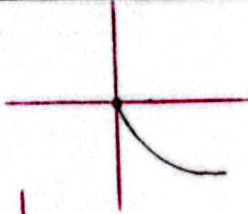
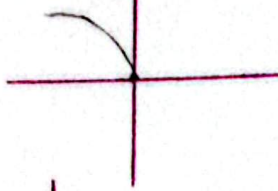
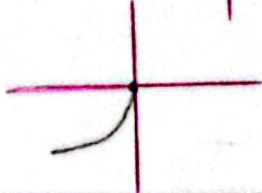
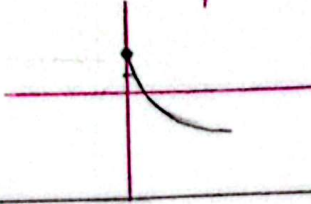
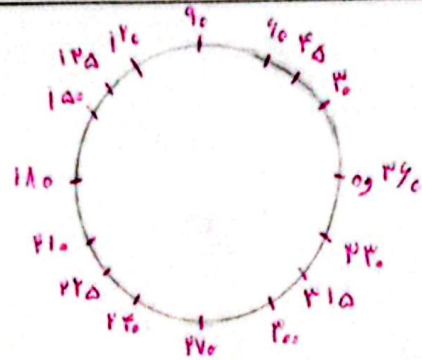
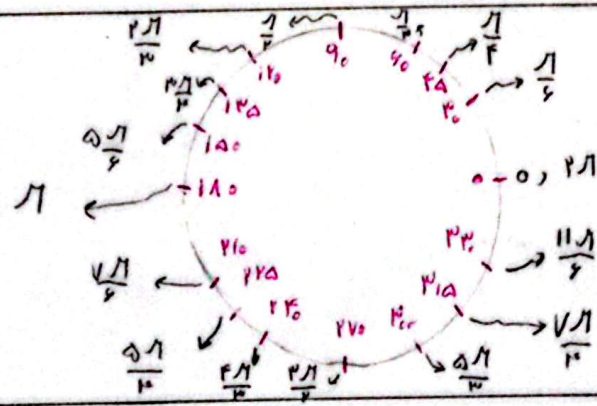
ج)



د)



۵

الف)  ب) 	٦
ج)  د) 	
$y = \sqrt{x} \rightarrow$  الف)  ب)  ج)  د) 	٧
	٨
	٩
الف) $-\frac{1}{p}$ ب) $\frac{1}{p}$	
ج) $\frac{1}{p}$ د) $-\frac{1}{p}$	١٠