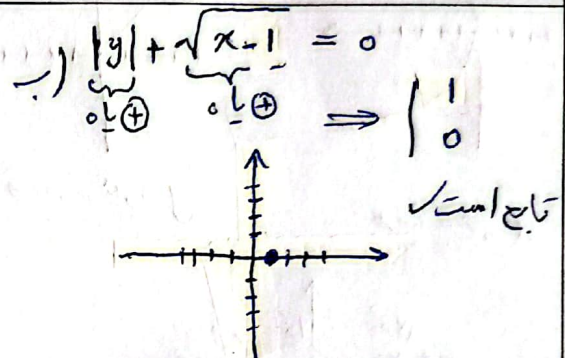
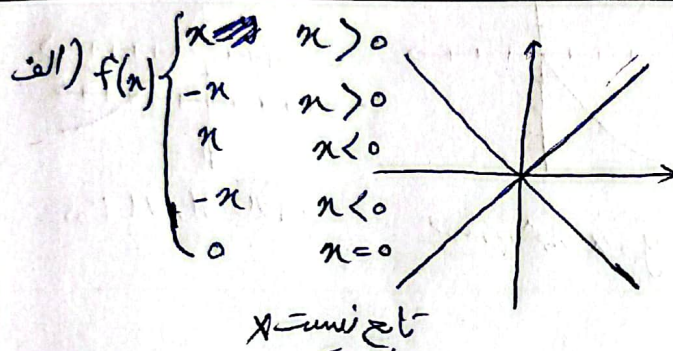


$$a^2 + 3 = fa \Rightarrow a^2 - fa + 3 = 0 \Rightarrow (a-3)(a-1) = 0 \Rightarrow$$

$$\Rightarrow a = 3 \vee a = 1$$

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الف) $x=3 \Rightarrow |y-1| = \sqrt{3-2} = 1 \Rightarrow y=2 \vee y=0$ تابع نیست

ب) $x=0 \Rightarrow y^4 - y = 0 \Rightarrow y(y^3 - 1) = 0 \Rightarrow y(y-1)(y+1)(y^2+1) = 0 \Rightarrow$
 $\Rightarrow y=0 \vee y=1 \vee y=-1$ تابع نیست

ج) $x=0 \xrightarrow{\sin 0=0} \cos^2 \frac{y}{2} = 1 \xrightarrow{\cos 0=1} y=0, y=2\pi$ تابع نیست

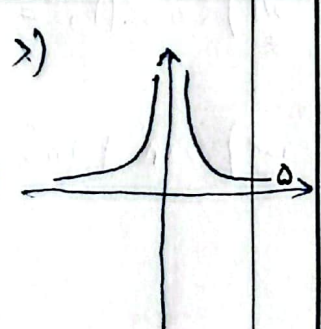
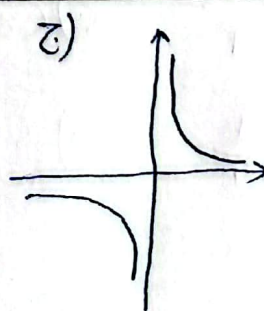
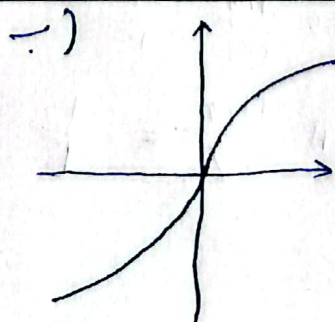
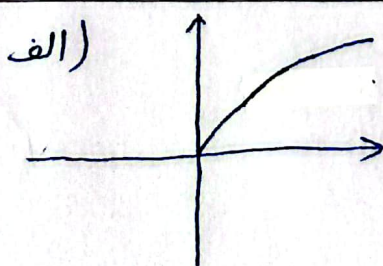
د) $x=0 \Rightarrow 2x \times y = 0 \Rightarrow y$ هر عددی می تواند باشد تابع نیست

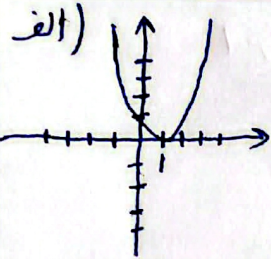
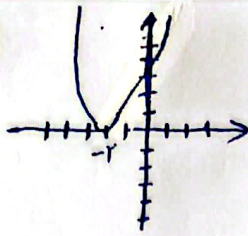
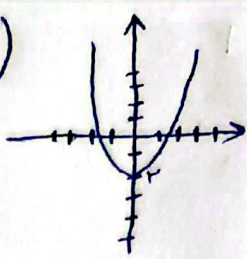
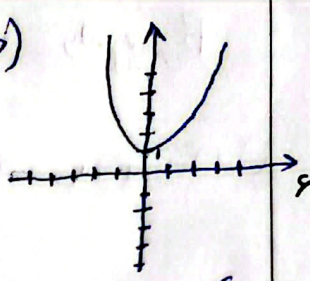
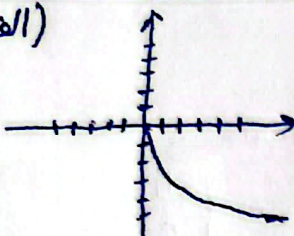
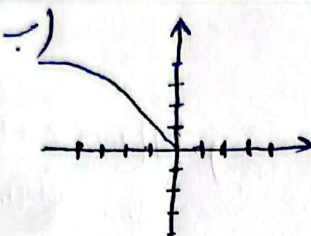
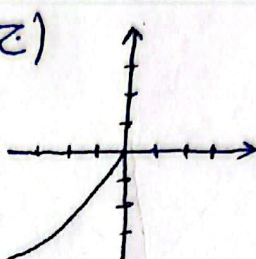
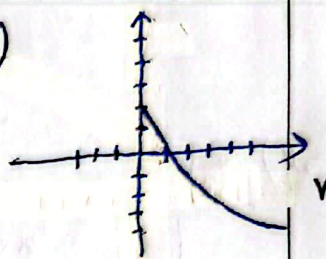
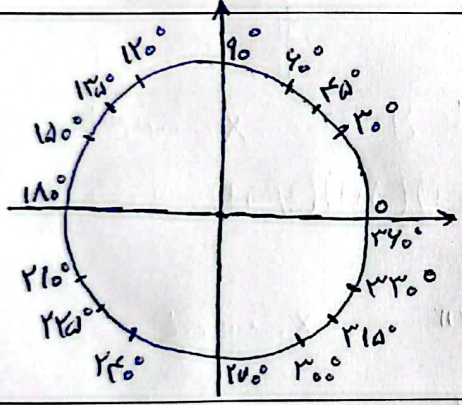
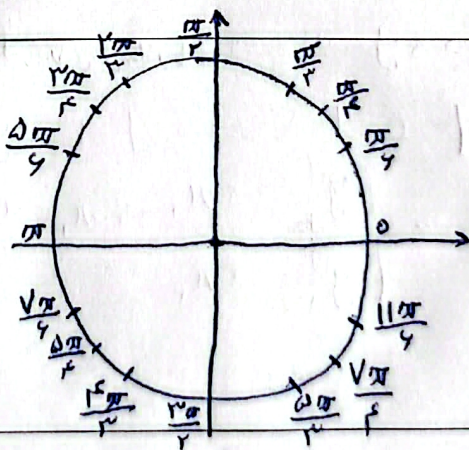
۳

الف) $x=1 \Rightarrow |y-1| = 4-1=3 \Rightarrow y=4, y=-2$ تابع نیست

ب) $y'' = -3x \rightarrow \begin{cases} y_1' = -3x_1 \\ y_2' = -3x_2 \end{cases} \xrightarrow{x_1 = x_2} y_1' = y_2' \Rightarrow y_1 = y_2$ تابع است

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الف)  یکم به سمت راست $x=0 \Rightarrow y=1$	ب)  دوتا به چپ $x=0 \Rightarrow y=4$	ج)  دوتا به پایین	د)  یکم به بالا	۶
الف)  قرینه به محور x	ب)  قرینه به محور y	ج)  قرینه به محور x و y	د)  دوتا بالاتر از x	۷
				۸
				۹
الف) $\cos 120^\circ = -\frac{1}{2}$ ج) $\cos \frac{4\pi}{3} = -\frac{1}{2}$ ب) $\sin 150^\circ = \frac{1}{2}$ د) $\sin \frac{11\pi}{6} = -\frac{1}{2}$				۱۰