

الف) $a^2 + 3 = 4a \rightarrow a^2 - 4a + 3 = 0$ دو دایره متقاطع $a \rightarrow \begin{cases} 1 \\ 3 \end{cases}$

①

الف) $\frac{x}{y} = \frac{1}{-1} \Rightarrow y = x$
 $\frac{y}{x} = \frac{1}{-1} \Rightarrow y = -x$
 تابع نیست x

②

ب) $|y| + \sqrt{x-1} = 0 \Rightarrow \sqrt{x-1} = 0 \Rightarrow x = 1$
 $|y| = 0 \Rightarrow y = 0$
 تابع نیست

الف) $x = 3 \rightarrow |y-1| = 1 \rightarrow y-1 = 1 \rightarrow y = 2$
 $y-1 = -1 \rightarrow y = 0$
 تابع نیست!

③

ب) $x = 0 \rightarrow y^5 - y = 0 \rightarrow y(y^4 - 1) = 0 \Rightarrow y(y^2 - 1)(y^2 + 1) = 0$
 $y = 0 / y = 1 / y = -1$
 تابع نیست!

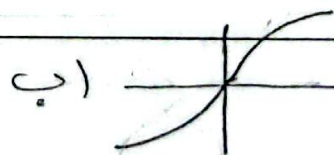
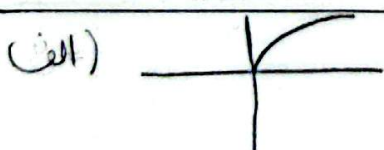
ج) $x = 45 \rightarrow (\frac{y}{\sqrt{x}})^2 + \cos^2 \frac{y}{\sqrt{x}} = 1 \rightarrow \cos^2 \frac{y}{\sqrt{x}} = \frac{1}{\sqrt{x}} \rightarrow \cos^2 y = 1$
 90°
 180°
 تابع نیست!

د) $2xy = x \rightarrow$ if $x = 0 \rightarrow y = 18$
 تابع نیست!

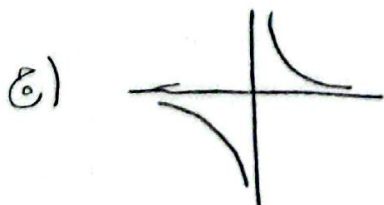
الف) $x = 1 \Rightarrow 1 + |y-1| = 4 \rightarrow |y-1| = 3 \rightarrow y-1 = 3 \rightarrow y = 4$
 $y-1 = -3 \rightarrow y = -2$
 تابع نیست

④

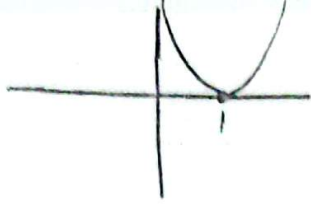
ب) $y^5 + 3x = 0 \Rightarrow y^5 = -3x \rightarrow y = \sqrt[5]{-3x}$
 تابع هست



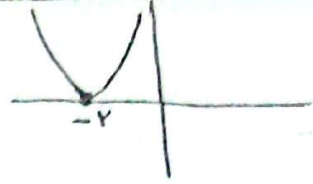
⑤



الف)

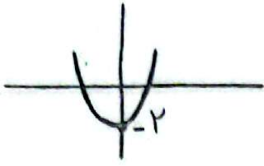


ب)

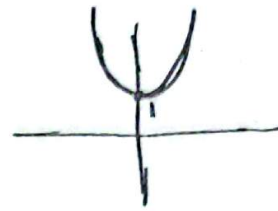


٩)

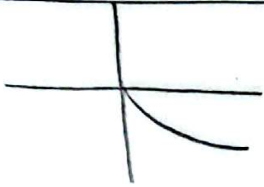
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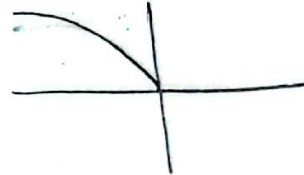
د)



الف)

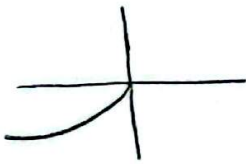


ب)

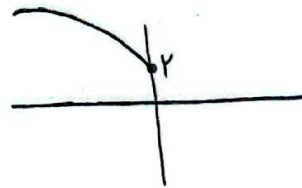


١٠)

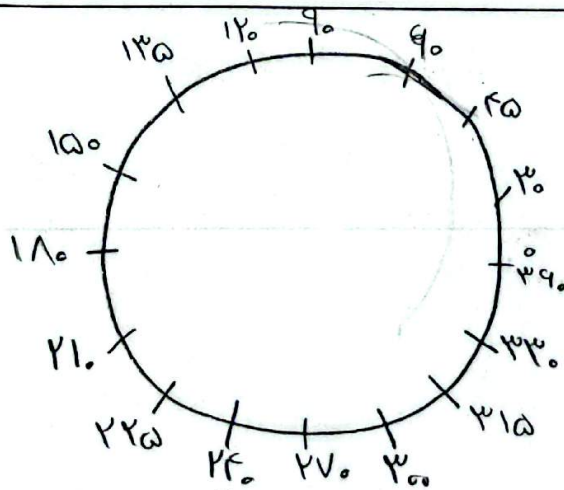
ج)



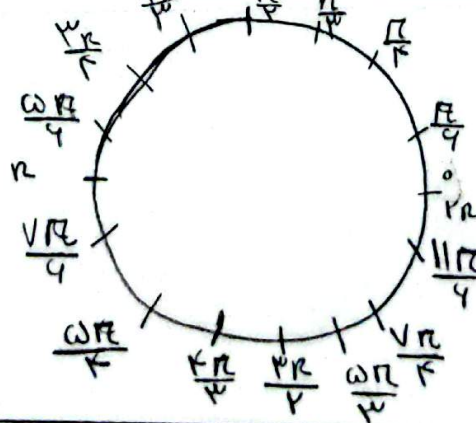
د)



١١)



١٢)



الف) $\frac{1}{2}$

ب) $\frac{1}{2}$

١٣)

ج) $\frac{1}{2}$

د) $-\frac{1}{2}$