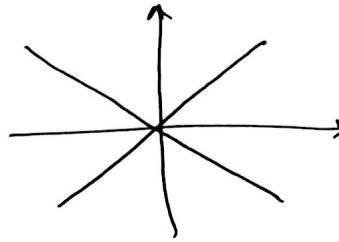


۱۹/۸

$$a^4 = a^2 + 3 \Rightarrow a^2 - 4a + 3 = 0 \Rightarrow (a-3)(a-1) = 0 \Rightarrow \begin{cases} a=3 \\ a=1 \end{cases}$$

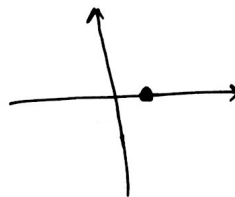
الف) $|y| = |x| \rightarrow \begin{cases} y=x \\ y=-x \end{cases}$

تابع نیست



۱/۵

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



تابع است

الف) $|y-1| = \sqrt{4-x^2} \rightarrow \begin{cases} y=3 \\ y=-1 \end{cases}$

ب) $y^5 - y = 0 \Rightarrow y(y^4 - 1) = 0 \rightarrow y(y^2 - 1)(y^2 + 1) = 0 \rightarrow y(y-1)(y+1)(y^2 + 1) = 0$
 $y = 0, y = 1, y = -1$

۲

ج) $\cos^2 \frac{y}{2} = 1 \rightarrow y = 2k\pi = 4\pi$
 $\rightarrow y = 0$

اگر $a=0$ باشد، y بهر مقداری تواند داشت بهر چه تابع نیست

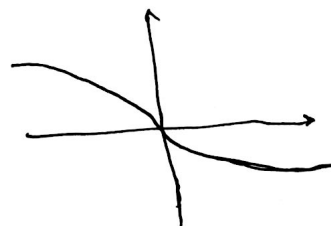
د) $2(0)y = 0 \Rightarrow 0 = 0 \Rightarrow$ پس به ازای هر y برقرار است

الف) $4 + |y-1| = 8 \Rightarrow |y-1| = 4 \rightarrow \begin{cases} y=5 \\ y=-3 \end{cases}$

$\Rightarrow$ تابع نیست

۲

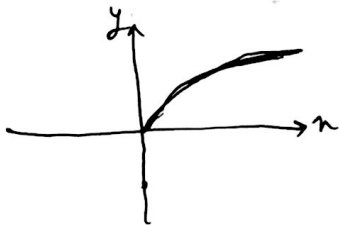
ب) $y^5 + 3x = 0 \Rightarrow y^5 = -3x \Rightarrow y = \sqrt[5]{-3x}$



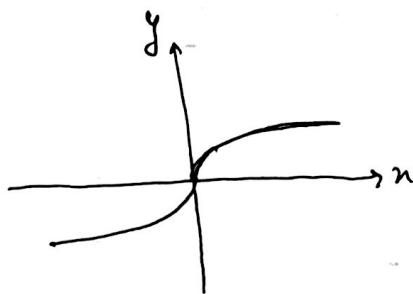
$\Leftarrow$ تابع است

- 5

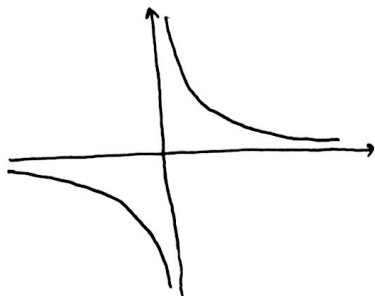
الف)



ب)

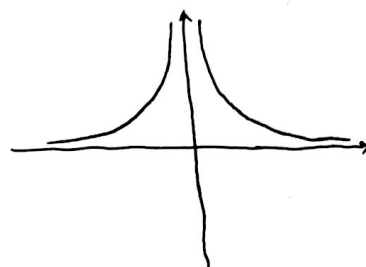


ج)



د) ✓

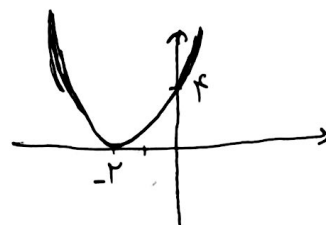
هـ)



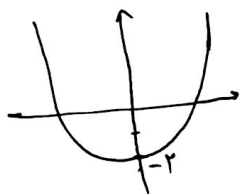
الف)



ب)

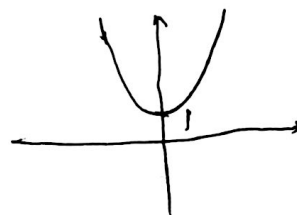


ج)

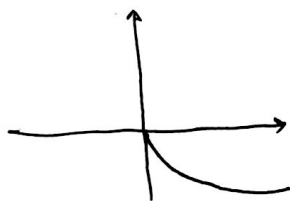


د) ✓

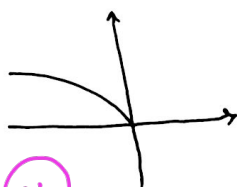
هـ)



الف)

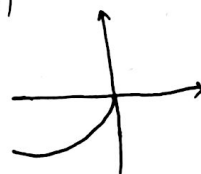


ب)



د) ✓

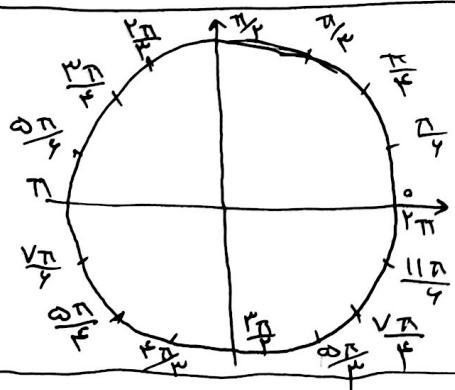
ج)



هـ)

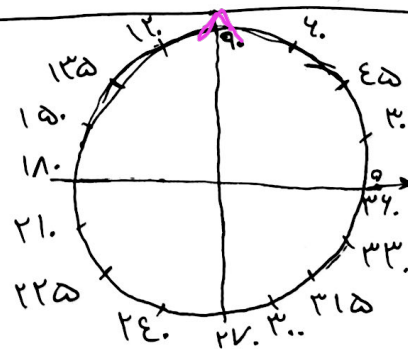


و)



ب)

د) ✓



و)

الف) $\frac{1}{y}$

ب) $\frac{1}{y}$

ج) $\frac{1}{y}$

د) $-\frac{1}{y}$

هـ)

د) ✓