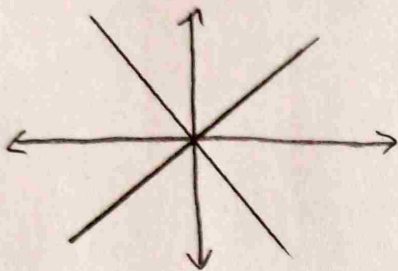


$$f = \{ (1, 4a), (1, a^2 + 3), (2, 3a) \}$$

$$4a = a^2 + 3 \rightarrow 4a - a^2 = 3 \rightarrow a(4 - a) = 3 \quad \boxed{a=1} \quad \boxed{a=3}$$

✓ (۲)

الف) $|y| = |x| \rightarrow y = \pm x$



تابع نیست

✓ (۲)

ب) $|y| + \sqrt{x-1} = 0$

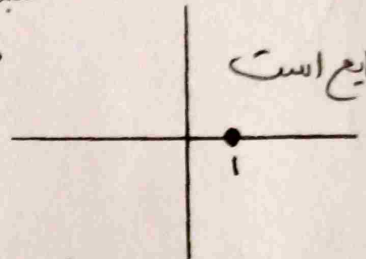
$0 = 0 + 0$ مثبت + مثبت = ۰

$|y| = 0 \rightarrow y = 0$

$\sqrt{x-1} = 0$

$x = 1$

قطب نقطه ۱



تابع است

۲

الف) $|y-1| = \sqrt{x-2} \xrightarrow{x=6} |y-1| = \sqrt{6-2}$

$y-1 = \pm 2 \rightarrow y = 3, y = -1$

ب) $y^5 - y = \frac{x^2}{2} \xrightarrow{x=0} y(y^4 - 1) = 0$

$y = 0, y = \pm 1$

۱, ۲, ۳

ج) $\sin^2 x + \cos^2 y = 1 \xrightarrow{x=90^\circ}$

$1 + \cos^2 y = 1 \rightarrow \cos^2 y = 0$

$\cos^2 y = 0$

$y = 90^\circ, 270^\circ$

$\frac{y}{2} = 90^\circ = 180^\circ$

$\rightarrow 2xy = x \xrightarrow{x=0} y = 180^\circ = 270^\circ \rightarrow y = 0^\circ, 180^\circ, 360^\circ$

الف) $x^2 + |y-1| = 4x \xrightarrow{x=1} |y-1| = 3 \rightarrow y-1 = \pm 3 \rightarrow y = 4, y = -2$

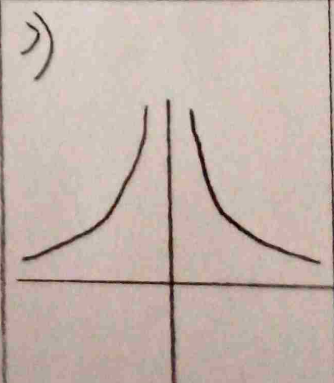
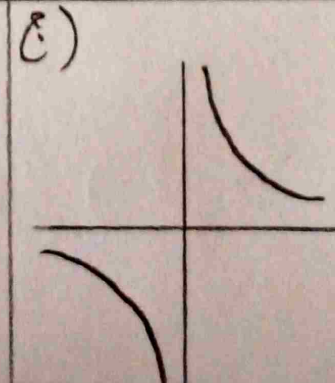
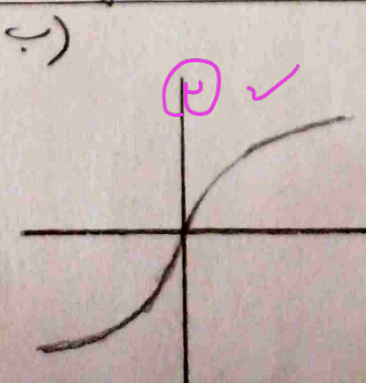
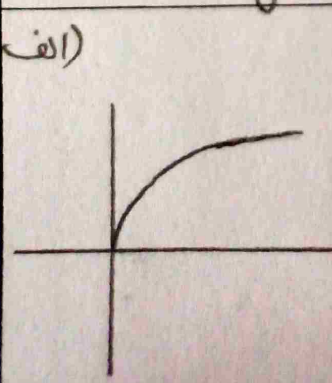
تابع نیست

ب) $y^5 + 3x = 0 \xrightarrow{x=1} y^5 = -3 \rightarrow y = \sqrt[5]{-3}$

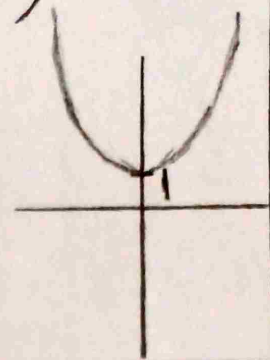
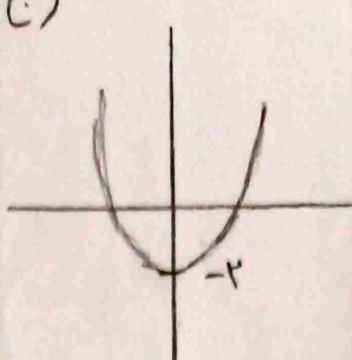
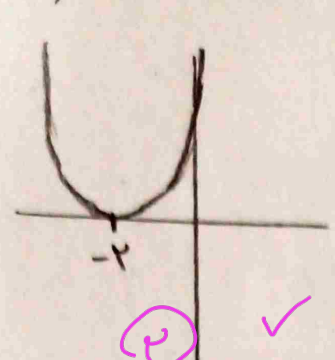
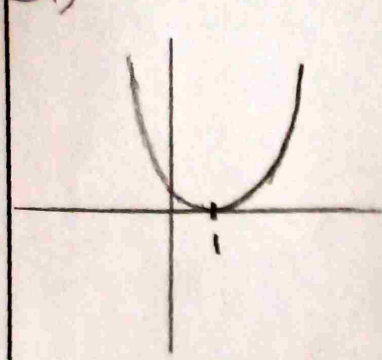
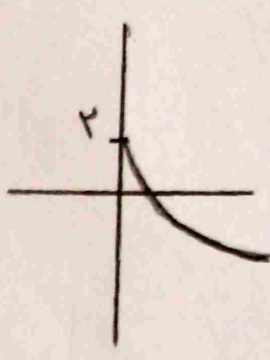
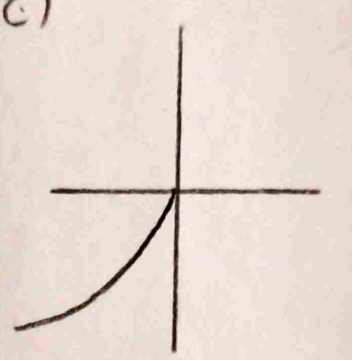
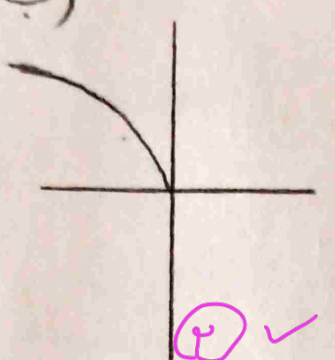
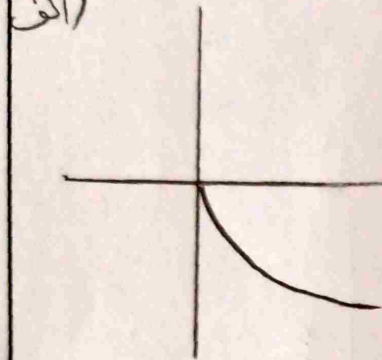
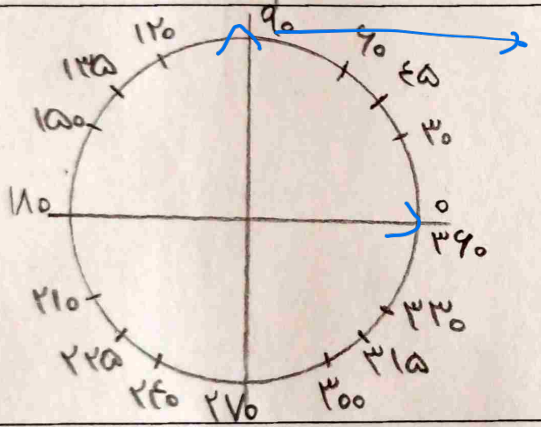
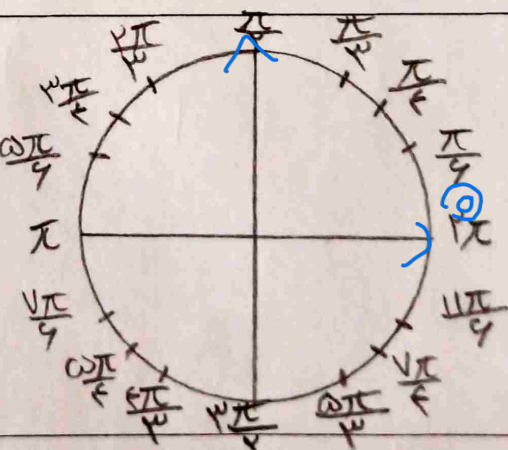
$\begin{matrix} x=0 \rightarrow y^5 = 0 \\ x=-1 \rightarrow y^5 = 3 \end{matrix}$

$y = \sqrt[5]{3}$

تابع هست ✓ (۲)



۵

د) 	ج) 	ب) 	ا) 	6
		ب) 	ا) 	7
 هتاریم نورد <u>1, 175</u>				8
 هتاریم نورد <u>175</u>				9
الف) $\cos 120^\circ = -\frac{1}{2}$ ج) $\cos \frac{5\pi}{3} = \frac{1}{2}$ ب) $\sin 150^\circ = \frac{1}{2}$ د) $\sin \frac{11\pi}{9} = -\frac{1}{2}$				10