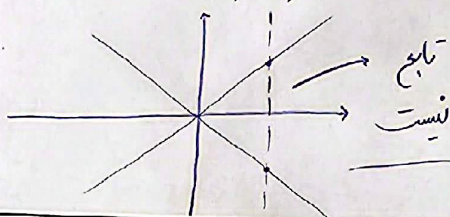


$$a = a^2 + 3 \rightarrow a^2 - a + 3 = 0 \rightarrow (a-1)(a-3) = 0 \rightarrow a = \begin{matrix} 1 \\ 3 \end{matrix}$$

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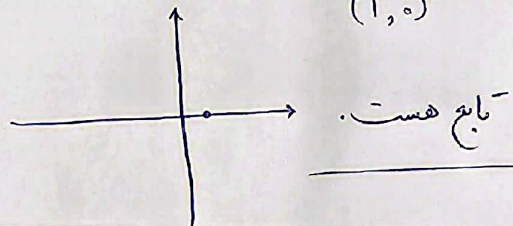
الف) $|y| = |x| \Rightarrow y = x$ یا $y = -x$

$\rightarrow x = 2 \rightarrow (2, 2), (2, -2)$



ب) $|y| > 0, |x-1| > 0 \rightarrow |y| > 0, |x-1| > 0$

$\rightarrow y \neq 0, |x-1| \neq 0 \rightarrow x \neq 1 \rightarrow x = 1$
 $(1, 0)$



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الف) $x = 3 \rightarrow |y-1| = |3-2| = 1 \rightarrow |y-1| = 1 \rightarrow y-1 = 1 \rightarrow y = 2$

ب) $x = 0 \rightarrow y^2 - y = 0 \rightarrow y(y-1) = 0 \rightarrow y^2 - 1 = (y-1)(y+1) \rightarrow y(y-1)(y+1)(y+1) = 0$

ج) $x = 0 \rightarrow \sin^2 y = 0 \rightarrow \cos^2 y = 1 \rightarrow \cos y = \pm 1 \rightarrow y = 0 \rightarrow y = \pi$

د) $x = 0 \rightarrow 2 \times y = 0 \rightarrow$ برای همی خاصیت می کند.

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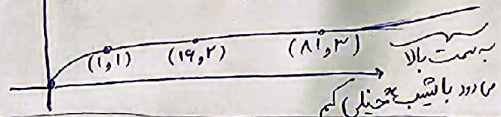
الف) $x^2 + |y-1| = 2x \rightarrow |y-1| = 2x - x^2 \rightarrow x = 1 \rightarrow |y-1| = 1 \rightarrow y = 2$
 $\rightarrow y = -2$

تابع نیست

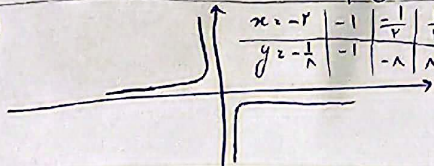
ب) $y^2 + 3x = 0 \rightarrow y^2 = -3x \rightarrow y = \sqrt{-3x}$ برای هر عدد حقیقی یک جواب حقیقی دارد.

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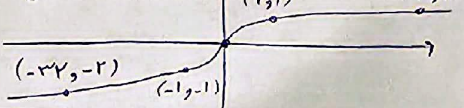
الف) $\frac{x=0}{y=0} \quad \frac{1}{1} \quad \frac{14}{2} \quad \frac{11}{3}$



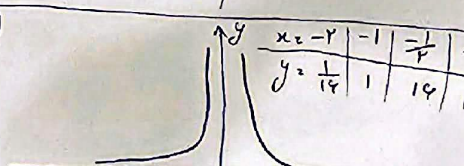
ج) $\frac{x=2}{y=\frac{1}{4}} \quad -1 \quad \frac{1}{4} \quad \frac{1}{4} \quad \frac{1}{4}$



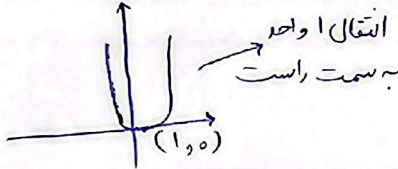
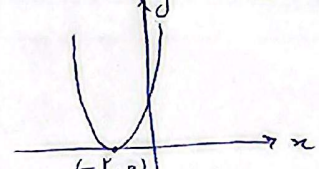
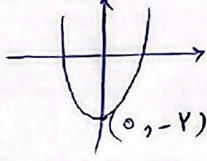
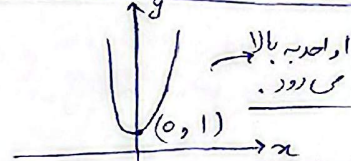
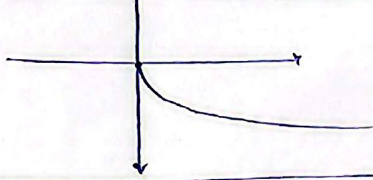
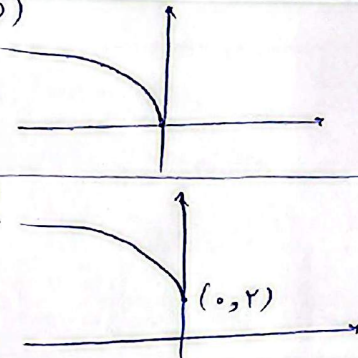
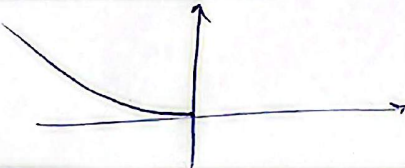
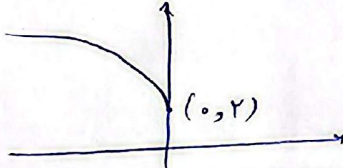
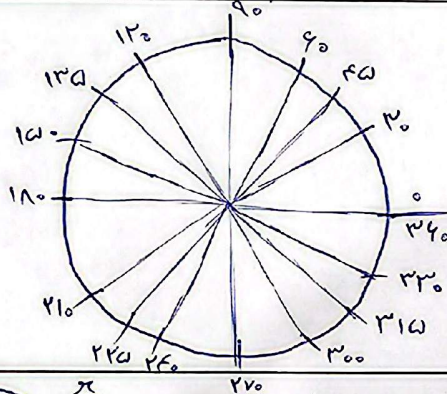
ب) $\frac{x=-32}{y=-2} \quad -1 \quad 0 \quad \dots$



د) $\frac{x=2}{y=\frac{1}{4}} \quad -1 \quad \frac{1}{4} \quad \frac{1}{4} \quad \frac{1}{4}$



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الف) 	ب) 	۶
ج) 	د) 	۷
الف) 	ب) 	۸
ج) 	د) 	۹
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الف) $120^\circ = 180^\circ - 60^\circ \rightarrow \cos 120^\circ = -\cos 60^\circ \rightarrow \cos 60^\circ = \frac{1}{2} \rightarrow \cos 120^\circ = -\frac{1}{2}$ ب) $150^\circ = 180^\circ - 30^\circ \rightarrow \sin 150^\circ = \sin 30^\circ \rightarrow \sin 30^\circ = \frac{1}{2} \rightarrow \sin 150^\circ = \frac{1}{2}$ ج) $\frac{5\pi}{6} = 150^\circ \rightarrow 150^\circ = 180^\circ - 30^\circ \rightarrow \cos 150^\circ = -\cos 30^\circ \rightarrow \cos 30^\circ = \frac{\sqrt{3}}{2} \rightarrow \cos 150^\circ = -\frac{\sqrt{3}}{2}$ د) $\frac{11\pi}{6} = 330^\circ \rightarrow 330^\circ = 360^\circ - 30^\circ \rightarrow \sin 330^\circ = -\sin 30^\circ \rightarrow \sin 30^\circ = \frac{1}{2} \rightarrow \sin 330^\circ = -\frac{1}{2}$		۱۰