

$$a^2 + 3 = 4a$$

$$a^2 - 4a + 3 = 0$$

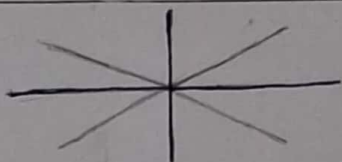
$$(a - 3)(a - 1) = 0$$

$$a = 3 \quad a = 1$$

۱

الف)

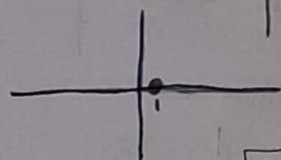
تابع
یک خط ۳۰ را در نقطه
قطع می کند



$$y = |x| \quad y = -|x|$$

ب)

تابع



چون قدر مطلق و رادیکال
همیشه بزرگتر مساوی صفر
هستند جمع آن دو وقتی صفر می شود
که هر دو صفر باشند.
 $|y| + \sqrt{x-1} = 0$
 $|y| = 0 \rightarrow y = 0$
 $\sqrt{x-1} = 0 \rightarrow x-1=0 \rightarrow x=1$

۲

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

ب) $x=0 \rightarrow y^5 - y = 0 \rightarrow y(y^4 - 1) = 0 \rightarrow \begin{cases} y=0 \\ y^4=1 \rightarrow y=\pm 1 \end{cases}$

۲) $x=0 \rightarrow \cos \frac{y}{2} = 1 \rightarrow \begin{cases} \frac{y}{2} = 0 & y=0 \\ \frac{y}{2} = \pi & y=2\pi \end{cases}$
 $\cos \frac{y}{2} = \pm 1$

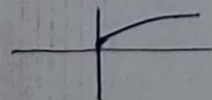
۳) $x=0 \rightarrow 2x \times y = 0 \quad y \in \mathbb{R}$

الف) $x=1$
 $1 + |y-1| = 4 \quad |y-1| = 3 \rightarrow \begin{cases} y-1=3 \rightarrow y=4 \\ y-1=-3 \rightarrow y=-2 \end{cases}$ تابع

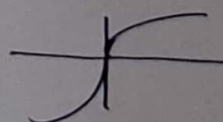
۴

ب) $y_1^2 + 3x_1 = 0 \quad x_1 = x_2 \quad y_1^2 = y_2^2 \Rightarrow y_1 = y_2$ تابع
 $y_2^2 + 3x_2 = 0$

الف)

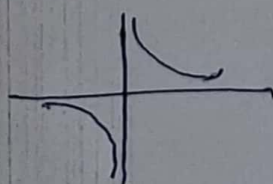


ب)

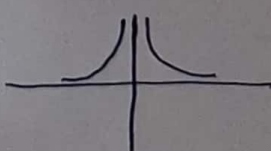


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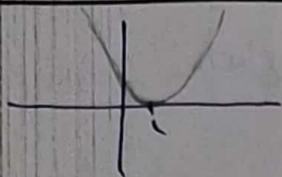
۲)



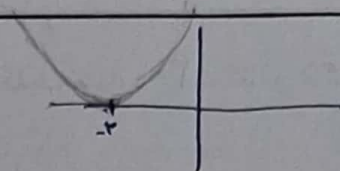
۳)



الف)

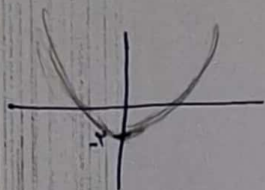


ب)

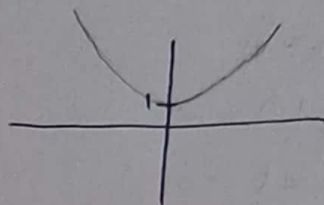


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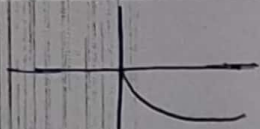
ج)



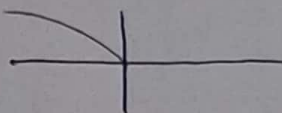
د)



الف)

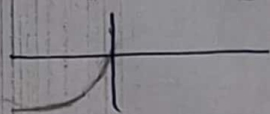


ب)

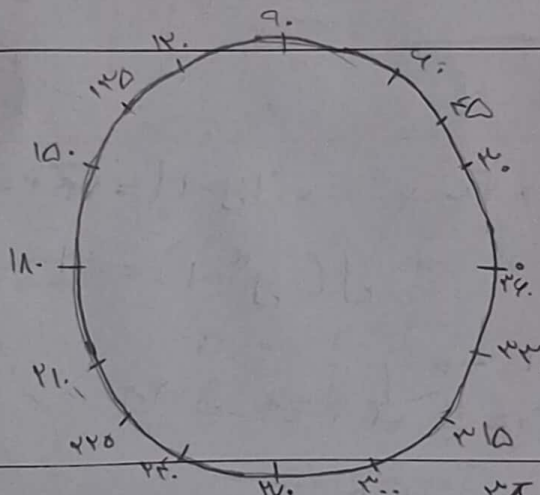
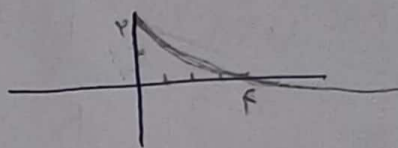


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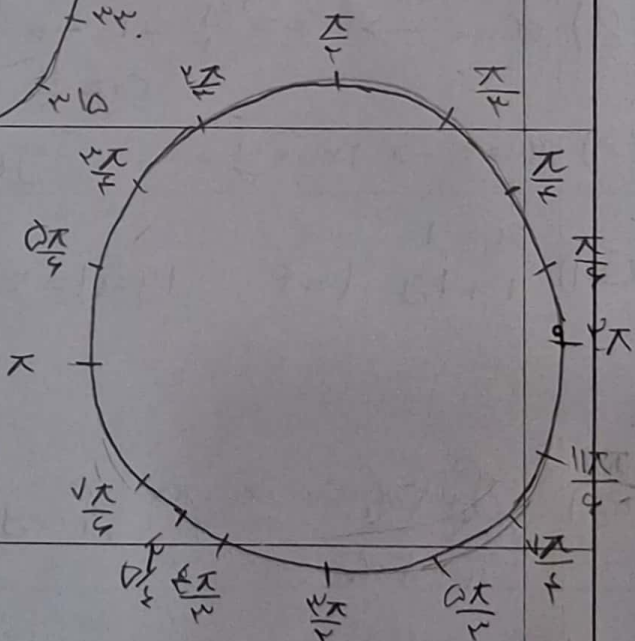
ج)



د)



٨



الف) $-\frac{1}{2}$

ب) $\frac{1}{2}$

ج) $\frac{1}{2}$

د) $-\frac{1}{2}$

٩