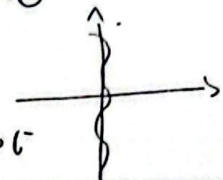


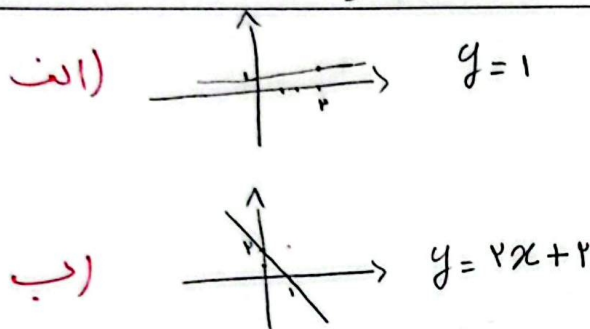
الف) $y_1'' = 2x_1^2 - x_1$ $x_1 = x_2 \rightarrow y_1'' = y_2'' \Rightarrow y_1 = y_2$
 $y_2'' = 2x_2^2 - x_2$ تابع است

ب) $|y_1| = -x_1^2 + x_1 + 3$ $x_1 = x_2 \rightarrow |y_1| = |y_2|$
 $|y_2| = -x_2^2 + x_2 + 3$ $y_1 = \pm y_2$ تابع نیست

ج) $|y - 2| = -\sqrt{x - 4}$
 همواره مثبت است و همی است و تابع است

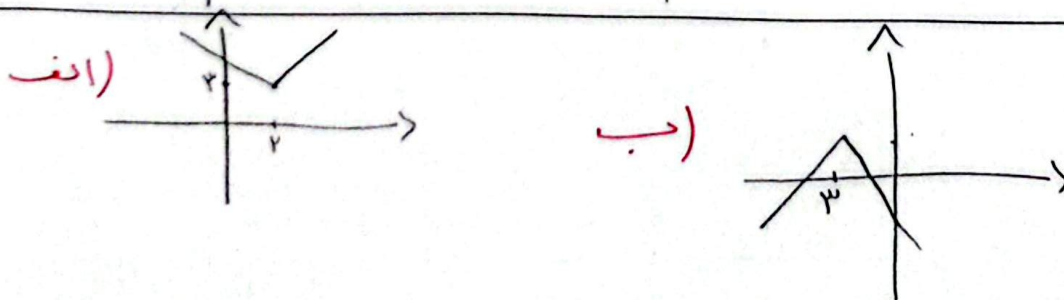
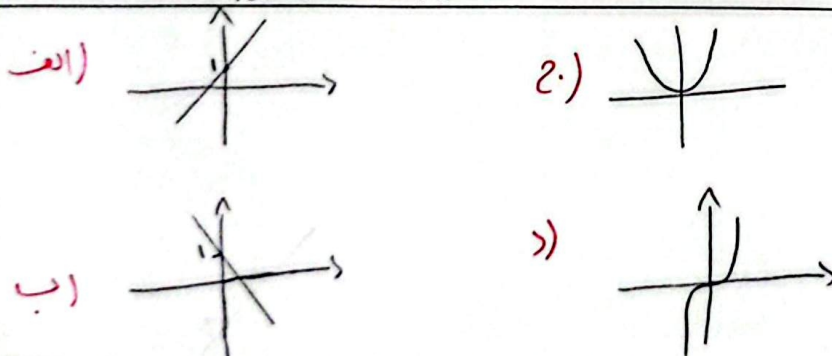
د) $x = \cos y$ تابع نیست





الف) $y = x \rightarrow a = 1$ $a + 2b \rightarrow 1 + 2(0) = 1$
 $b = 0$

ب) $\frac{-a}{2a-1} = 2 \Rightarrow a = -4$ $1 = 2^2 + -4 \cdot 2 + b$
 $\frac{-\Delta}{4a} = 1$ $b = 5$ $a + 2b = -4 + 2(5) = 6$
 $a = x$ ضرب ۱ $\Leftarrow$ ضرب ۲

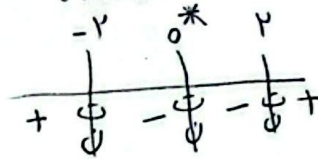


الف) $x(x-4) > 0 \Rightarrow \begin{cases} x=0 \\ x=4 \end{cases} D_f = \mathbb{R} - \{0, 4\}$

ب) $D_f \subset \mathbb{R} \rightarrow \Delta < 0$ ج) $x^2(x^2-4) > 0 \Rightarrow \begin{cases} x=0 \\ x=\pm 2 \end{cases}$

ج) $\Delta < 0 D_f \subset \mathbb{R}$

$D_f = \mathbb{R} - \{2, 0, -2\}$



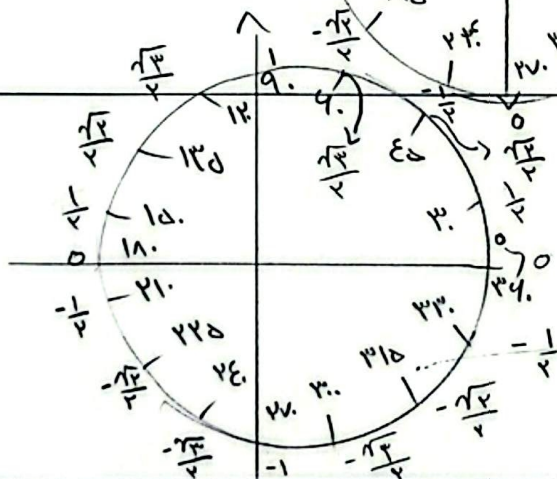
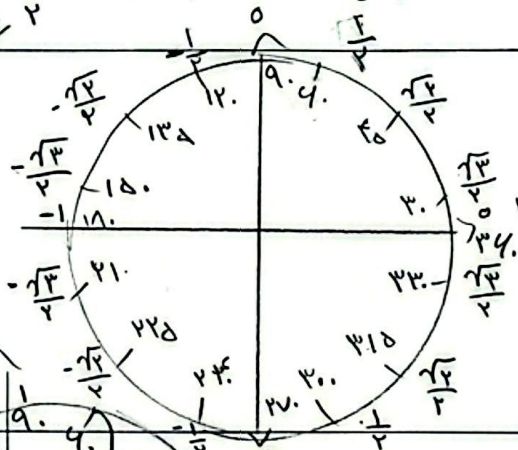
الف) $4-x \geq 0 \Rightarrow x \leq 4$ $x-2 \geq 0 \Rightarrow x \geq 2$ $D_f = [2, 4]$ ج) $|x| + x^2 \neq 0$

جوابه مثبت $|x| \neq -x^2$ جواره برقرار

ب) $x^2 \neq 0 \Rightarrow x \neq 0$ $x^2 \neq -1$ $D_f \subset \mathbb{R}$

$D_f \subset \mathbb{R} - 0$

ج) $x-4 \neq 0 \Rightarrow x \neq 4$ $x-2 \geq 0 \Rightarrow x \geq 2$ $D_f = [2, +\infty) - \{4\}$



الف) $2\pi/3 \Rightarrow \begin{cases} -\frac{1}{2} \rightarrow \frac{1}{2} \\ \frac{\sqrt{3}}{2} \end{cases} \frac{\pi}{4} \Delta \frac{\pi}{4}$

ب) $11\pi/4 \mid \begin{cases} \frac{\sqrt{3}}{2} \rightarrow -\frac{\sqrt{3}}{2} \\ -\frac{1}{2} \end{cases} \frac{\pi}{3} \Delta \frac{\pi}{3}$