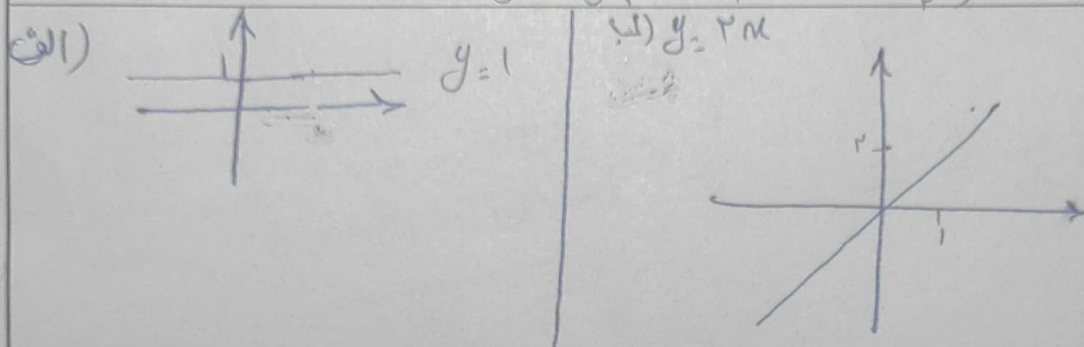
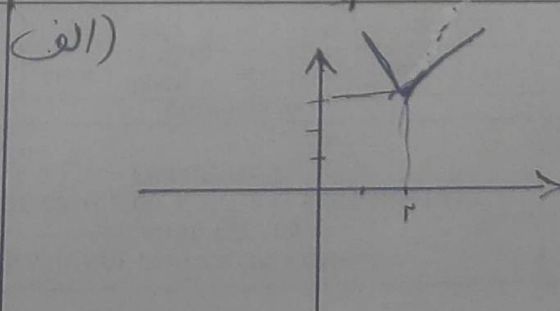
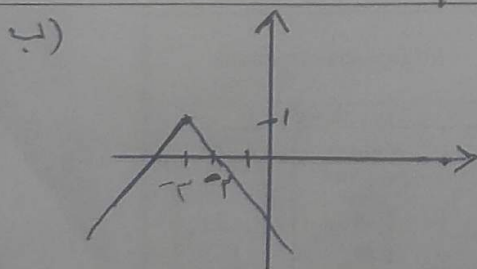
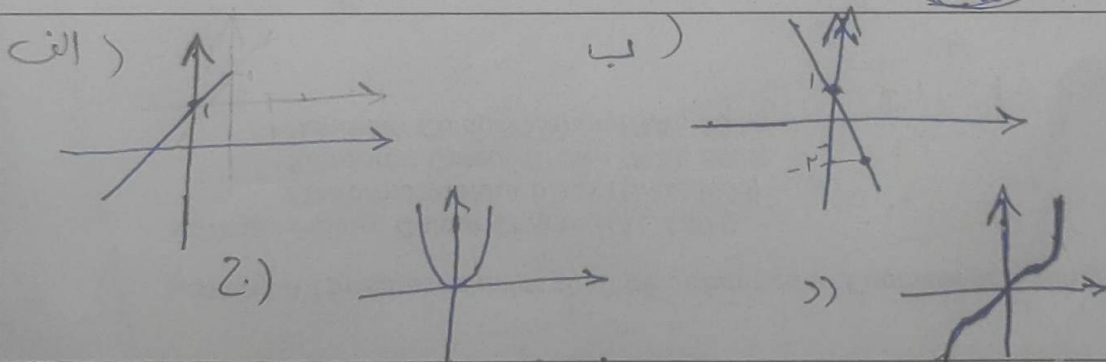


الف) $y^3 - x = 2x^2 \rightarrow y^3 = 2x^2 + x \rightarrow y = \sqrt[3]{2x^2 + x}$ برای هر نقطه یک جواب داریم
 ب) $|y| + x^2 = x + 3 \rightarrow |y| = x - x^2 + 3 \xrightarrow{IF \ x=0} |y| = 3 \Rightarrow y = \pm 3$ تابع سینوس
 ج) $\sqrt{x-4} + |y-2| = 0$ مجموع دو عدد غیر منفی صفر $\rightarrow x=4, y=2$ یک نقطه تابع
 د) $x = \cos y \xrightarrow{IF \ y=0} \cos y = 0 \rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$ تابع سینوس



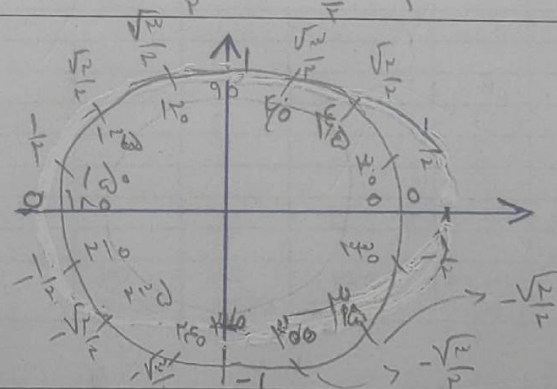
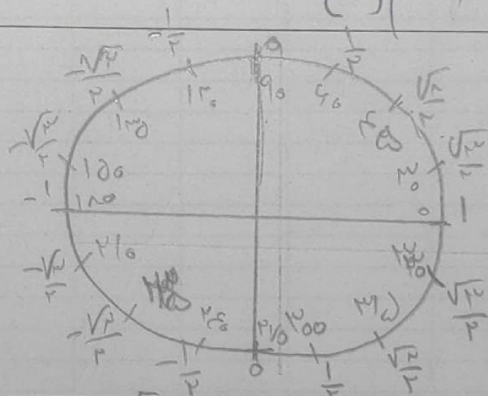
الف) $y = ax + b$ $b=0$ $a=1 \rightarrow a+2b = 1 + (2 \times 0) = 1$
 چون تابع خطی

ب) $y = ax^2 + ax + b$
 $-\frac{b}{2a} = 2 \rightarrow -\frac{a}{2} = 2 \Rightarrow a = -4$ $x + (2 \times (-4)) + b = 1$ $a+2b=4$
 $\hookrightarrow -4+b=1$ $(b=5)$



ا) $x^2 - 4x \neq 0 \Rightarrow x \neq 0, 4 \Rightarrow D_F = \mathbb{R} - \{0, 4\}$
 ب) $x^2 - \sqrt{x} + 14 \neq 0 \Rightarrow D_F = \mathbb{R}$
 ج) $x^2 + x + 1 \neq 0 \Rightarrow D_F = \mathbb{R}$
 د) $x^2 - 4x^2 \neq 0 \Rightarrow x^2 (x-4) \neq 0 \Rightarrow x \neq 0, 4 \Rightarrow D_F = \mathbb{R} - \{0, 4\}$

ا) $y = \sqrt{4-x} + \sqrt{x-2}$, $4-x \geq 0 \Rightarrow x \leq 4$, $x-2 \geq 0 \Rightarrow x \geq 2$
 $2 \leq x \leq 4$ $D_F = [2, 4]$
 ب) $y = \frac{x+1}{x^2+1} \Rightarrow D_F = \mathbb{R}$
 ج) $\frac{\sqrt{x-2}}{x-2} \Rightarrow x-2 \geq 0 \Rightarrow x \geq 2$
 $x \neq 2 \Rightarrow D_F = [2, +\infty) - \{2\}$
 د) $y = \frac{x+1}{|x|+x^2}$ $x \neq 0$
 $D_F = \mathbb{R} - \{0\}$



ا) $\cos \frac{\pi}{5} = -(-\frac{1}{2}) = \frac{1}{2}$ $\sin \frac{\pi}{5} = \sin \frac{\pi}{5} = \frac{1}{2}$

ب) $\cos \frac{11\pi}{5} = -\frac{\sqrt{3}}{2}$ $\sin \frac{11\pi}{5} = \sin \frac{\pi}{5} = \frac{1}{2}$