

الف) $x^2 - \varepsilon x \rightarrow \frac{(x+1)(x-1)}{-1} \quad D_f = \mathbb{R} - \{\pm 1\}$

ب) $x^2 - \varepsilon x \Rightarrow D_f = \mathbb{R}$

ج) $x \Rightarrow D_f = \mathbb{R}$

$x^2 - \varepsilon x$
 $x(x - \varepsilon) \quad x \neq 0$
 $x \neq \varepsilon$
 $D_f = \mathbb{R} - \{0, \varepsilon\}$

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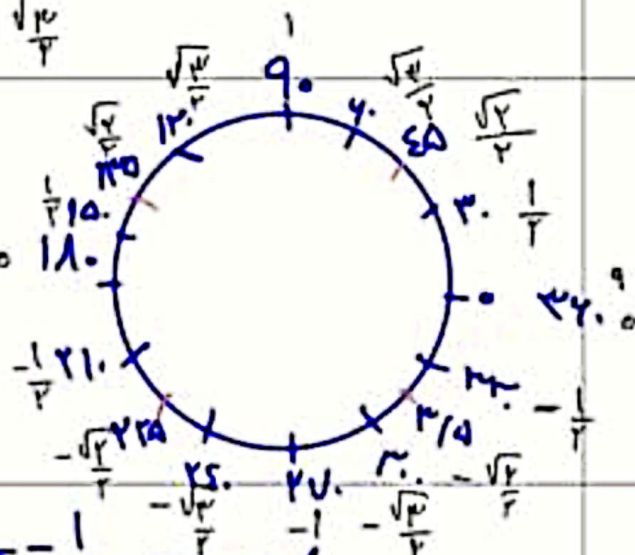
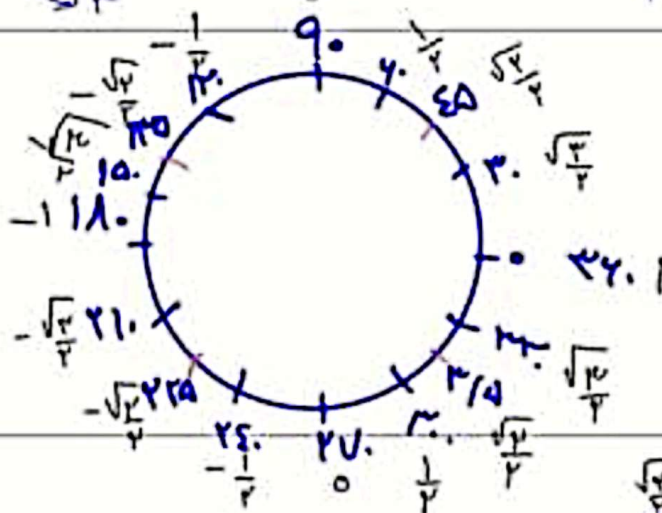
د) $x^2(x^2 - \varepsilon) \rightarrow \frac{x^2(x-1)(x+1)}{0 \quad 1 \quad -1} \quad D_f = \mathbb{R} - \{\pm 1, 0\}$

الف) $4 - x \geq 0 \quad 4 \geq x \quad x - 2 \geq 0 \quad x \geq 2 \quad D_f = [2, 4]$

ب) $x^2 + 1 \geq 0 \Rightarrow D_f = \mathbb{R}$

ج) $x - 2 \geq 0 \quad x \geq 2 \quad x - \varepsilon \neq 0 \quad x \neq \varepsilon \Rightarrow D_f = [2, \varepsilon) \cup (\varepsilon, +\infty)$

د) $|x| + x^2 \geq 0 \Rightarrow x = 0 \Rightarrow D_f = \mathbb{R} - \{0\}$

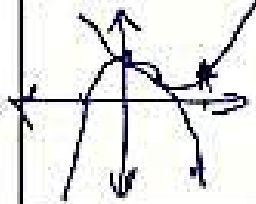


الف) $\frac{\pi}{2} \rightarrow 120^\circ \Rightarrow \cos 120^\circ = -\frac{1}{2} \rightarrow \frac{1}{2}$
 $\sin 120^\circ \rightarrow \frac{\sqrt{3}}{2} \quad D_f = \{2k\pi + \frac{\pi}{6}, 2k\pi + \pi - \frac{\pi}{6}\}$

ب) $\cos \frac{11}{6}\pi \rightarrow \cos 330^\circ \rightarrow \frac{\sqrt{3}}{2} \rightarrow -\frac{\sqrt{3}}{2}$
 $\theta = \{2k\pi + \frac{5\pi}{6}, 2k\pi + \frac{7\pi}{6}\}$

الف) $y^3 = 2x^2 - x \Rightarrow y = \sqrt[3]{2x^2 - x}$ ✓

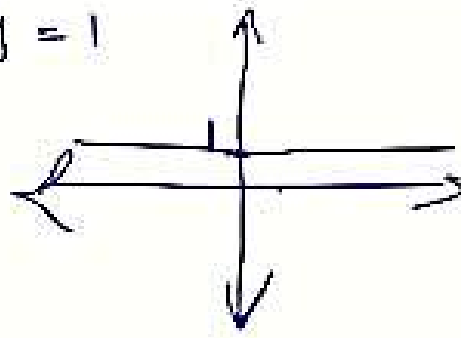
ب) $y = -x^2 + x + 2 \Rightarrow -y = -x^2 + x + 2 \Rightarrow y = x^2 - x - 2$ ✓



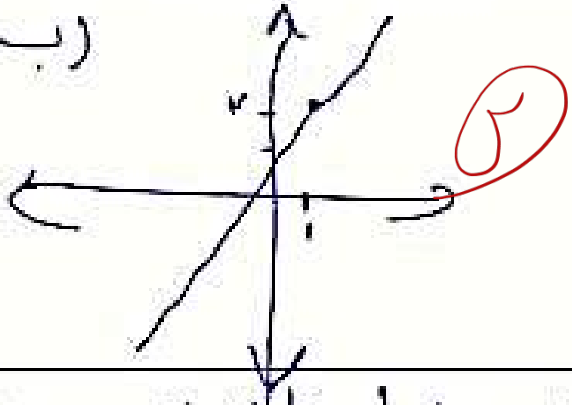
ج) $\sqrt{x-4} + |y-2| = 0 \Rightarrow x=4 \quad y=2$ ✓

د) $x = \cos y$ تابع زوج x است

الف) $y = 1$



ب)



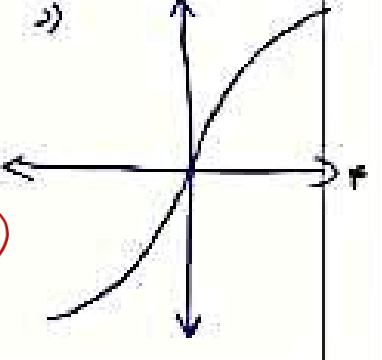
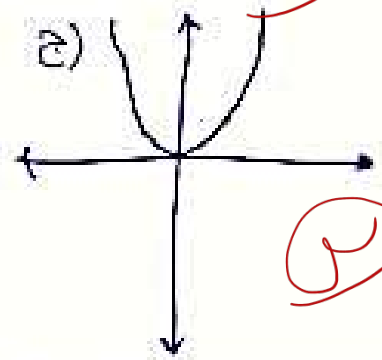
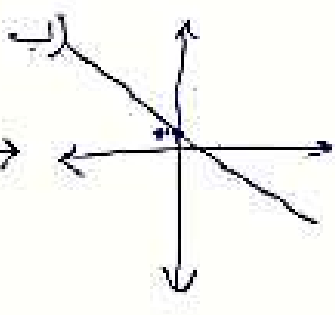
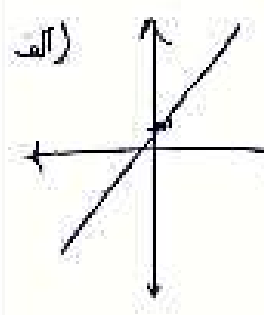
الف) $y = x \quad a=1 \quad b=0 \Rightarrow a+2b=1+0=1$ ✓

ب) $\min = \frac{1}{1} \Rightarrow -\frac{a}{b} \Rightarrow 1 \leq -1$ ✓

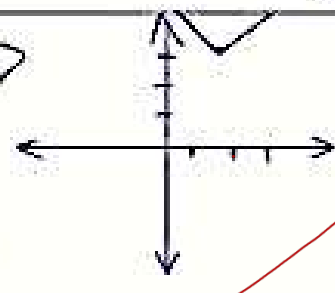
$1 = 4 - 1 + b$

$a+2b \leq -4 + 10 = 6$ ✓

$1 = -1 + b \Rightarrow b = 2$ ✓



الف) $\Rightarrow$ دایره است $\Rightarrow$ دایره



ب)

