

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

$$ب) \text{مخرج يساوي 0} \Rightarrow D_f = \mathbb{R}$$

$$ج) \text{ " } \Rightarrow D_f = \mathbb{R}$$

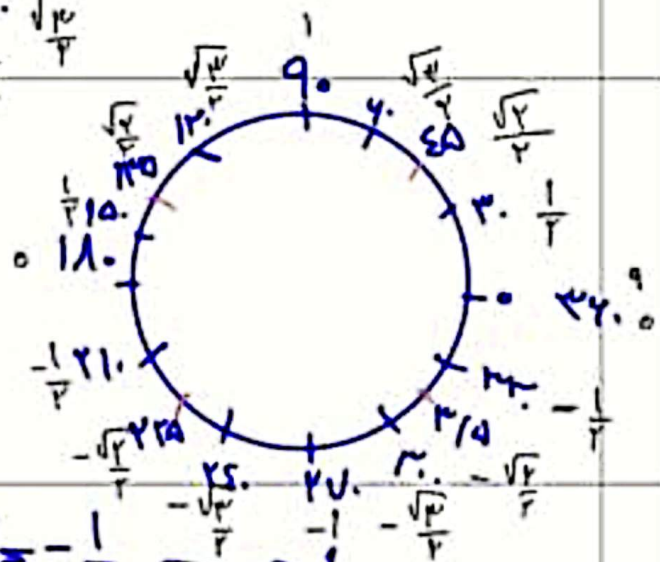
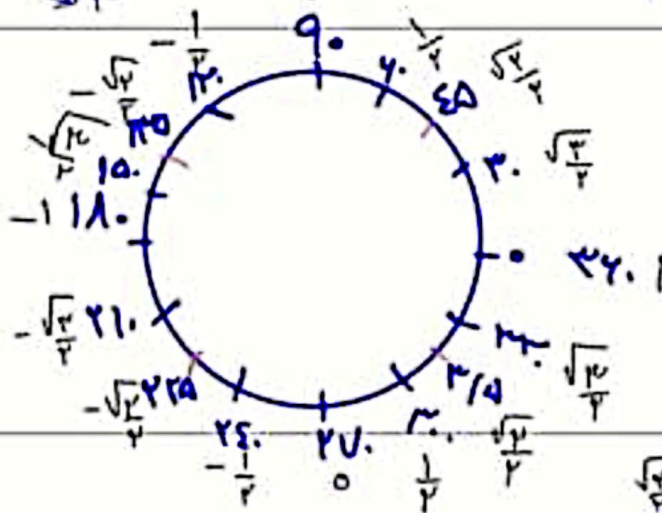
$$د) x^2(x^2 - \varepsilon) \rightarrow x^2(x - \frac{\varepsilon}{2})(x + \frac{\varepsilon}{2}) \quad D_f = \mathbb{R} - \{\pm \frac{\varepsilon}{2}, 0\}$$

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

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

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

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

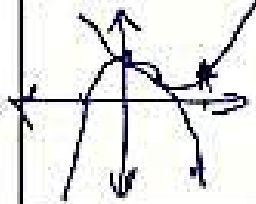


$$الف) \frac{\pi}{6} \rightarrow 30^\circ \Rightarrow \cos 30^\circ = \frac{\sqrt{3}}{2} \rightarrow \frac{1}{2} \rightarrow \sin 30^\circ \rightarrow \frac{1}{2} \quad D_f = \left\{ 2k\pi + \frac{\pi}{6}, 2k\pi + \pi - \frac{\pi}{6} \right\}$$

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

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

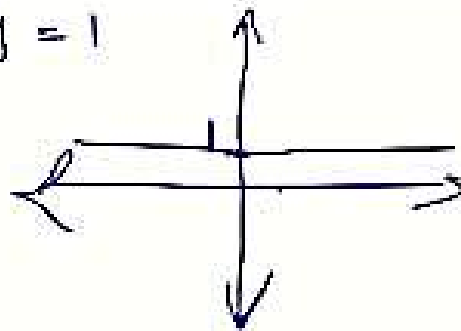
ب)  $y = -x^2 + x + 2 \Rightarrow -y = -x^2 + x + 2 \Rightarrow y = x^2 - x - 2$  ✓



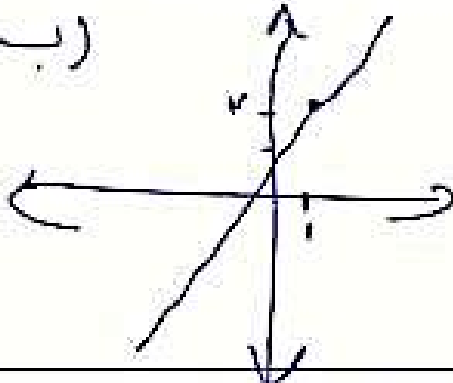
ج)  $\sqrt{x-4} + |y-2| = 0 \Rightarrow x=4 \quad y=2$  ✓

د)  $x = \cos y$  تابع زوج  $x$  و  $y$  متغیر

الف)  $y = 1$



ب)



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

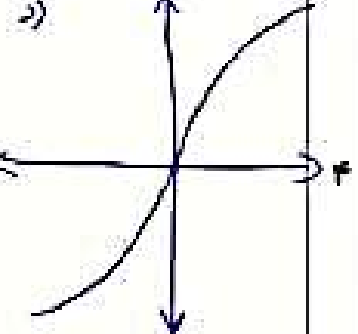
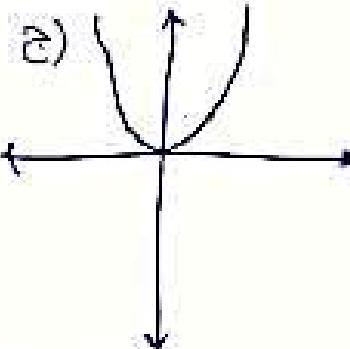
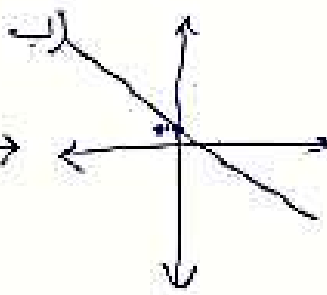
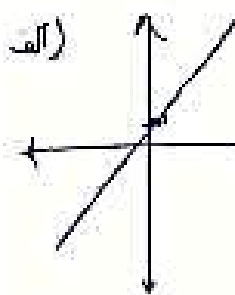
ب)  $\min = \left| \frac{2}{1} \right| \Rightarrow -\frac{a}{b} \Rightarrow 2 \quad a \leq -2$

$1 = 2 - 1 + b$

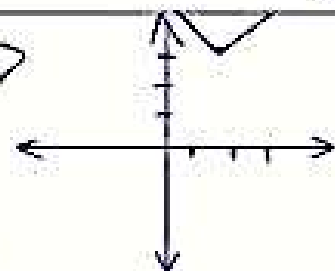
$a+2b \leq -2 + 1 = -1$

$1 = -2 + b \Rightarrow b = 3$

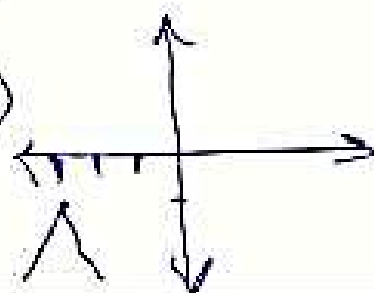
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الف)  $\Rightarrow$  دواضرب است  $\Rightarrow$  دواضرب است  $\Rightarrow$  الف



ب)



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