

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

ب) $x^2 - \sqrt{x} + 12 \rightarrow$ $D_f = \mathbb{R}$

ج) $x^2 + x + 2 \rightarrow$ $D_f = \mathbb{R}$

د) $x^2(x^2-4) \neq 0 \Rightarrow x \neq 0, x \neq 2, x \neq -2$ $D_f = (-\infty, -2) \cup (-2, 0) \cup (0, 2) \cup (2, +\infty)$

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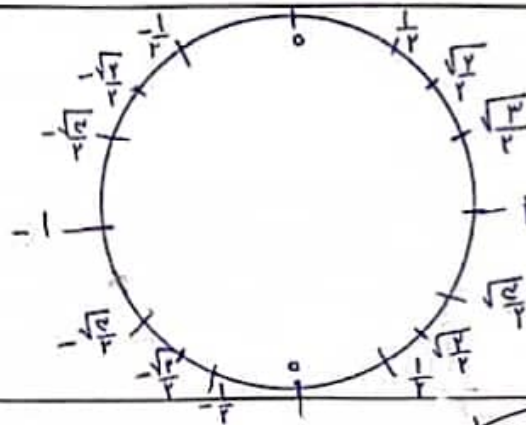
الف) $4-x \geq 0 \Rightarrow x \leq 4$ $x-2 \geq 0 \Rightarrow x \geq 2 \Rightarrow 2 \leq x \leq 4 \quad D_f = [2, 4]$

ب) $x^2 + 1 \rightarrow$ $D_f = \mathbb{R}$

ج) $x-2 \geq 0 \Rightarrow x \geq 2, x \neq 4 \quad D_f = (2, +\infty) \cup [4, +\infty)$

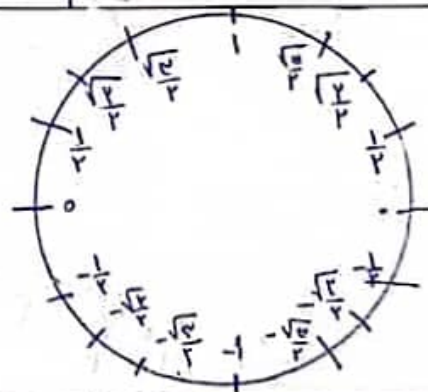
د) $|x| + x^2 \neq 0 \Rightarrow x \neq 0 \quad D_f = \mathbb{R} - \{0\}$

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$\cos \alpha = \frac{x}{r}$
مخمس

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الف) $\frac{1}{\sqrt{2}} \rightarrow \frac{\pi}{4}, \frac{5\pi}{4} = 2k\pi + \frac{\pi}{4}, 2k\pi + \frac{5\pi}{4}$

ب) $-\frac{\sqrt{2}}{2} \rightarrow \frac{3\pi}{4}, \frac{5\pi}{4} = 2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{5\pi}{4}$

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الف) تابع مست $y = \sqrt{2x^2 + x}$ $y^2 = 2x^2 + x$

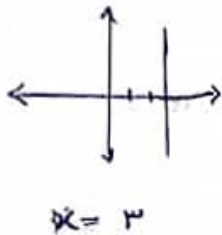
ب) تابع نیست $|y| + x^2 = x + 3 \Rightarrow |y| = 3 - x^2$ $y = -3, y = 3$

ج) تابع مست $|y - 2| = -\sqrt{x - 4}$ $y = 2$ $x = 4$

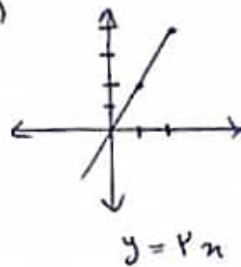
د) تابع نیست $x = \cos y \xrightarrow{y=0} x = \cos 0 = 1$ $y = \frac{\pi}{2}, \frac{3\pi}{2}$

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الف)



ب)



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الف) $y = x$ $a = 1$ $1 + e = 1$

ب) $-\frac{a}{r} = +2$ $a = -4$

$-\frac{a^2 + 4b}{4} = 1$ $-a^2 + 4b = 4$
 $-16 + 4b = 4$
 $4b = 20$
 $b = 5$

$a + 2b = -4 + 10 = 6$

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الف)

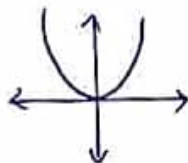


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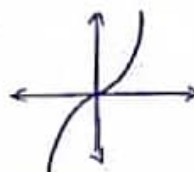


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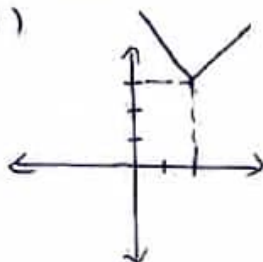
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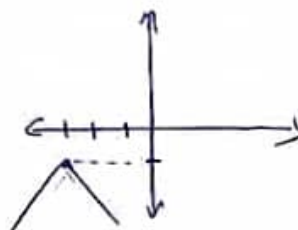
د)



الف)



ب)



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