

①

الف) $y^3 - x = 2x^2$

$y^3 = 2x^2 + x \Rightarrow x(2x+1) = y^3$ ← تابع است *

ب) $|y| + x^3 = x + 3$

$|y| = x + 3 - x^3$ ← تابع است *

$|y| = 0 + 3 - 0 = |y| = 3 \Rightarrow y = \pm 3$

ج) $\sqrt{x-4} + |y-2| = 0$

$|y-2| = -\sqrt{x-4}$

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← تابع نیست *

د) $x = \cos y$

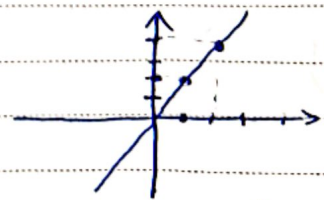
$x = 0 \Rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$
 $90^\circ, 270^\circ$



②

ب) $\begin{pmatrix} 1 \\ 2 \end{pmatrix}$, $y = \frac{c}{x}$, $ax + b = y$

$2x + b = y$, $y = \frac{c}{x} \Rightarrow b = 0 \Rightarrow 2x = y$



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شماره

$$y = x \Rightarrow a=1, b=0 \quad 1+0=1 \quad (2) \text{ الف}$$

$$\frac{-a}{b} = 1 \Rightarrow a = -b$$

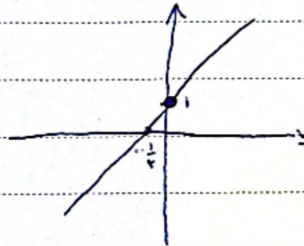
$$1 \Rightarrow \frac{-\Delta}{\frac{1}{-1}} = \frac{+\Delta}{+1} = 1 \Rightarrow \Delta = 1$$

$$-1 + 0 = -1$$

$$1 - 1b = 1$$

$$b = 0$$

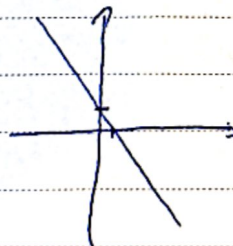
$$3) y = 2x + 1$$



$$10$$

$$10^{-1}$$

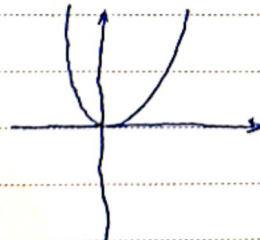
$$4) y = -2x + 1$$



$$10$$

$$10^{-1}$$

$$5) y = x^2$$

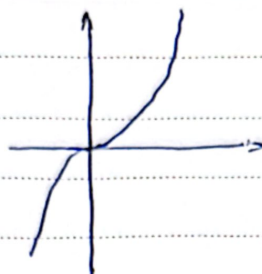


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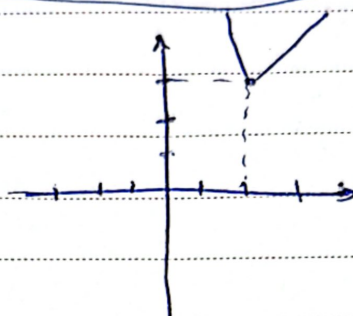
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$$y = x^3$$

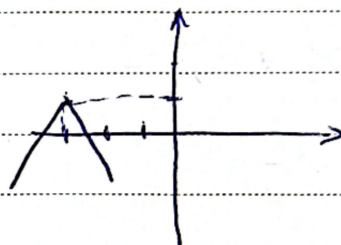


$$الف) y = |x - 2| + 3$$



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$$ب) y = -|x + 3| + 1$$



$$الف) y = \frac{x + 4}{x^2 - 4x}$$

$$x(x - 4)$$

$$x^2 - 4x \neq 0$$

$$x^2 \neq 4x$$

$$x \neq 4, 0$$

$$D_f = \mathbb{R} - \{4, 0\}$$

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$$ب) y = \frac{x+5}{x^2-1x+4}$$

$D = \mathbb{R}$

$$\Delta = 1 - 4 \times 1 \times 4 = 1 - 16 = -15 < 0 \Rightarrow \text{مميز} < 0$$

$$ج) y = \frac{x+5}{x^2+x+5}$$

$$\Delta = 1 - 16 = -15 < 0 \Rightarrow \text{مميز} < 0 \rightarrow D = \mathbb{R}$$

$$د) y = \frac{x+5}{x^2-5x}$$

$$D_f = \mathbb{R} - \{0, 5\}$$

$$x^2(x-5) \Rightarrow x \neq 0, 5$$

$$هـ) y = \sqrt{4-x} + \sqrt{x-2}$$

$$4-x \geq 0$$

①

$$4 \geq x$$

$$\Rightarrow 2 \leq x \leq 4$$

$$x-2 \geq 0$$

$$D = [2, 4]$$

$$x \geq 2$$

$$و) y = \frac{3x+1}{x^2+1}$$

$$x^2+1 \neq 0$$

$$x^2 \neq -1 \Rightarrow \text{مميز} < 0 \rightarrow D = \mathbb{R}$$

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$$2.) y = \frac{\sqrt{x-1}}{x-1}$$

$$x-1 \neq 0$$

$$x \neq 1$$

$$D = \mathbb{R} - \{1\}$$

$$3.) y = \frac{px + p}{|x| + x^p} \Rightarrow |x| + x^p \neq 0 \quad D = \mathbb{R} - \{0\}$$

~~في~~

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$$\cos 120^\circ = -\frac{1}{2} \times -1 = \frac{1}{2}$$

$$\frac{p}{q} \pi = 120^\circ \text{ (المت)}$$

$$0^\circ, 120^\circ \Rightarrow \left[\frac{\pi}{4}, \frac{5\pi}{4} \right]$$

$$\frac{\sqrt{p}}{q} = \sin \left[\frac{\pi}{4}, \frac{5\pi}{4} \right] \Rightarrow \left[\frac{5\pi}{4}, \frac{7\pi}{4} \right]$$

ب.

شیبہ

