

الف) $y^2 - x = 2x^2 \Rightarrow \begin{cases} y_1^2 - x_1 = 2x_1^2 \\ y_2^2 - x_2 = 2x_2^2 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 = y_2^2 \Rightarrow y_1 = y_2 \quad \text{✓}$

نمودار ریاضی

ب) $|y| + x^2 = x + 3 \xrightarrow{x=0} |y| = 3 \Rightarrow y = \pm 3 \quad \text{✗}$

مقدار منفی

ج) $\sqrt{x-4} + |y-2| = 0 \Rightarrow \begin{matrix} 2 \\ 1 \\ 0 \\ -1 \\ -2 \end{matrix} \quad \text{✓}$

رسم شکل

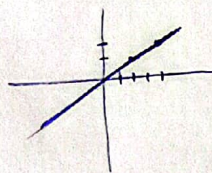
د) $x = \text{Gf } y \xrightarrow{x=0} y = 90, 270 \quad \text{✗}$

مقدار منفی

$y = ax + b \Rightarrow 2 = 2x + b \Rightarrow y = 2x$

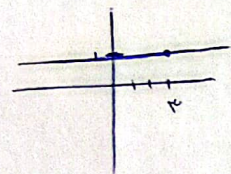
ب)

$y = 2x$



الف)

$y = k \Rightarrow y = 1$



ب) $-\frac{b}{2a} = 2 \Rightarrow b = -4a \Rightarrow b = -4 \times (\frac{3}{4}) = -3$

الف)

$y = x \leftarrow \text{شیب 1}$

$1 = 4 + \frac{2a}{-2a} \Rightarrow 1 = 4 - 1 \Rightarrow 1 = 3 \Rightarrow 3 = 2a$

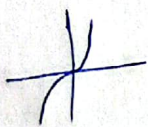
$x = ax + b$
 $\begin{cases} a = 1 \\ b = 0 \end{cases}$

$\Rightarrow a = \frac{3}{2}$

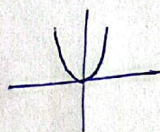
$\Rightarrow a + b = 0 + 1 = 1$

$\Rightarrow a + b = \frac{3}{2} - 1 = -\frac{1}{2}$

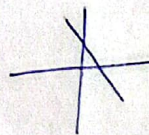
د)



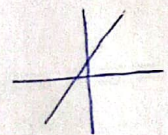
ج)



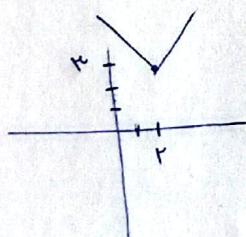
ب)



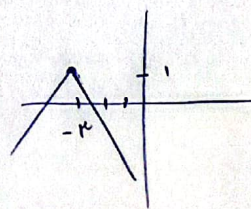
الف)



الف) $y = |x - 2| + 3$



ب) $y = -|x + 3| + 1$



۵

$$\text{a)} y = \frac{x+\varepsilon}{x^r - \varepsilon x} \leadsto x(x-\varepsilon) \quad D_f = \mathbb{R} - \{0, \varepsilon\}$$

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

$$\text{b)} y = \frac{x+\varepsilon}{x^r - \sqrt{x} + 4} \leadsto D = b^r - \varepsilon a c \leadsto D = \varepsilon a \times (1 \times 17) \varepsilon = \varepsilon a - 4\varepsilon = -18 \leadsto D = \text{ciss} \quad D_f = \mathbb{R}$$

$$\text{c)} y = \frac{x+\varepsilon}{x^r + x + \varepsilon} \leadsto D = b^r - \varepsilon a c \leadsto D = 1 - (\varepsilon \times 1) \varepsilon = 1 - 12 = -18 \leadsto D = \text{ciss} \quad D_f = \mathbb{R}$$

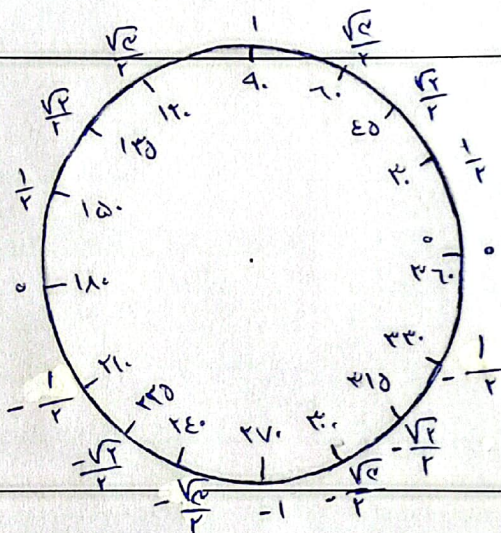
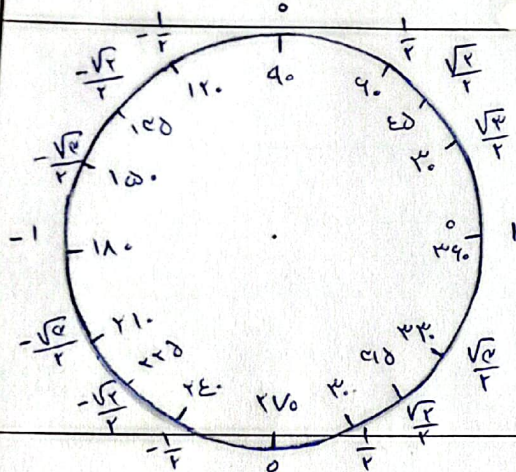
$$\text{d)} y = \frac{x+\varepsilon}{x^r - x^r} \leadsto x^r(x^r - \varepsilon) = x^r(x-r)(x+r) \quad D_f = \mathbb{R} - \{-r, r\}$$

$$\text{a)} y = \sqrt{4-x} + \sqrt{x-r} \quad \leftarrow \begin{array}{c} \bullet \quad \bullet \\ | \quad | \\ 0 \quad r \quad 4 \end{array} \quad D_f = [0, r]$$

$$\text{b)} y = \frac{x^r + 1}{x^r + 1} \leadsto x^r + 1 \geq 1 \quad D_f = \mathbb{R}$$

$$\text{c)} y = \frac{\sqrt{x-r}}{x-\varepsilon} \leadsto x \geq r \Rightarrow D_f = \{x \mid x \geq r, x \neq \varepsilon\}$$

$$\text{d)} y = \frac{x+r}{|x|+x^r} \leadsto |x|+x^r \neq 0 \rightarrow |x|+x^r \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$$



$$\sin \frac{\pi}{4}, \sin \frac{5\pi}{4} \leftarrow \frac{1}{\sqrt{2}} \leftarrow \cos 135^\circ = \cos \frac{3\pi}{4}$$

$$\sin \frac{3\pi}{4}, \sin \frac{7\pi}{4} \leftarrow -\frac{\sqrt{2}}{2} \leftarrow \cos 225^\circ = \cos \frac{5\pi}{4}$$