

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره ۳ کلاس A

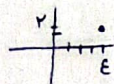
الف) $y^2 - x = 2x^2 \Rightarrow \begin{cases} y_1^2 - x_1 = 2x_1^2 \\ y_2^2 - x_2 = 2x_2^2 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 = y_2^2 \Rightarrow y_1 = y_2 \quad \text{✓}$

نمودار ریاضی

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

مقدار منفی

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



رسم شکل

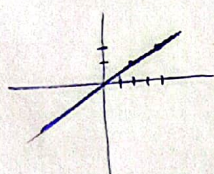
د) $x = 6 \text{ و } y \xrightarrow{x=0} y = 90, 270 \quad \text{⊗}$

مقدار منفی

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

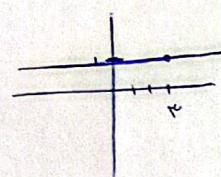
ب)

$y = 2x$



الف)

$y = k \Rightarrow y = 1$



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

الف) $y = x$ ← معادله خط

$1 = 4 + \frac{3a - 4a}{-2a} \Rightarrow 1 = 4 - \frac{a}{2} \Rightarrow 2 = 8 - a \Rightarrow a = 6$

$x_5 = -\frac{b}{2a} = -\frac{-3}{2 \times 6} = \frac{1}{4} \Rightarrow a = -2$

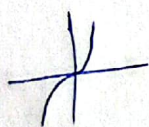
$\begin{cases} a = 1 \\ b = 0 \end{cases}$

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

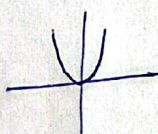
$y_5 = 1 \rightarrow 1 = (2)^2 - 2(2) + b \rightarrow b = 1$

$\Rightarrow a + b = \frac{3}{2} - 12 = -10 \frac{1}{2} \quad a + 2b = -4 + 2(1) = -2 \Rightarrow a + b = 0 + 1 = 1$

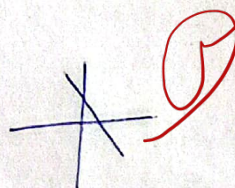
د)



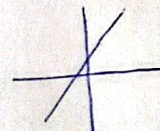
ج)



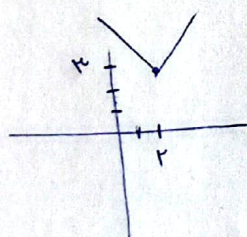
ب)



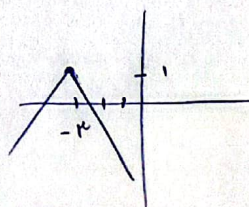
الف)



الف) $y = |x - 2| + 3$



ب) $y = -|x + 3| + 1$



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

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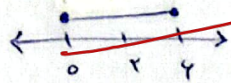
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$$\text{b) } y = \frac{x+\varepsilon}{x^r - \sqrt{x+4}} \leadsto D = b^r - \varepsilon a c \leadsto D = \varepsilon a x(1+x) \varepsilon = \varepsilon a - 4\varepsilon = -1\varepsilon \leadsto D = \text{ciss} \quad D_f = \mathbb{R}$$

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

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

$$\text{a) } y = \sqrt{4-x} + \sqrt{x-r}$$



$$D_f = [0, r]$$

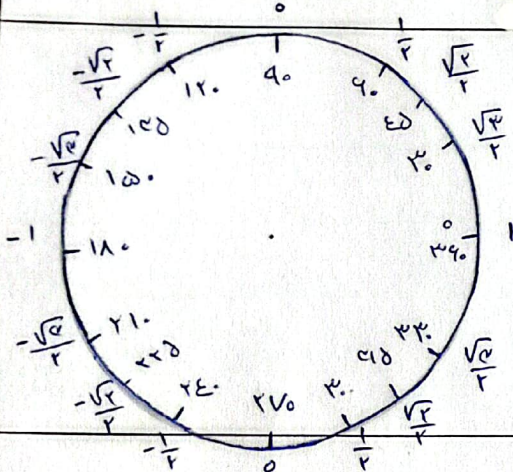
$$\begin{aligned} 4-x &\geq 0 & x &\leq 4 \\ x-r &\geq 0 & x &\geq r \\ D_f &= [r, 4] \end{aligned}$$

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

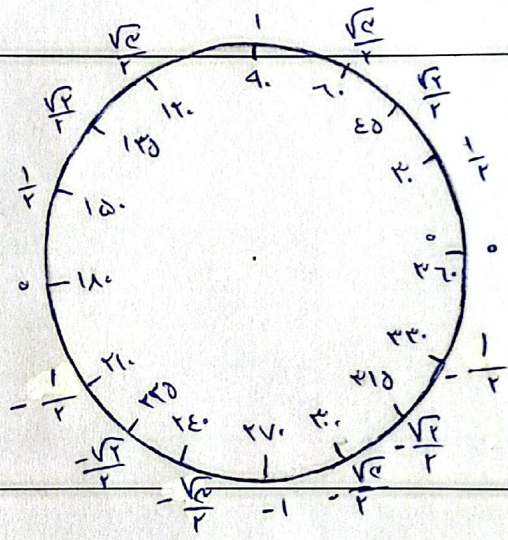
$$\text{c) } y = \frac{\sqrt{x-r}}{x-\varepsilon} \leadsto x \geq r \Rightarrow D_f = \{x \mid x \geq r, x \neq \varepsilon\}$$

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

1, 2



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

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

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