

نام و نام خانوادگی نام پاسخنامه تشریحی تکلیف شماره کلاس نام / /

$$\begin{aligned} \text{الف)} \quad y^2 - x = 2x^2 &\Rightarrow y_1^2 = 2x_1^2 - x_1 \\ &\quad y_2^2 = 2x_2^2 - x_2 \end{aligned} \quad \left. \begin{aligned} x_1 = x_2 \\ y_1^2 = y_2^2 \end{aligned} \right\} \Rightarrow \text{تابع نیست}$$

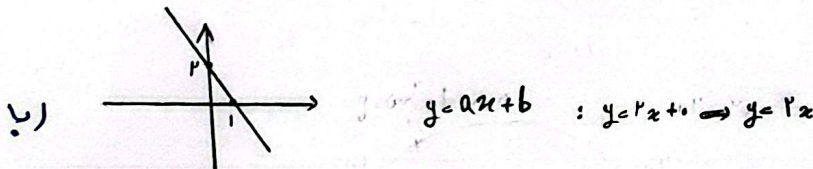
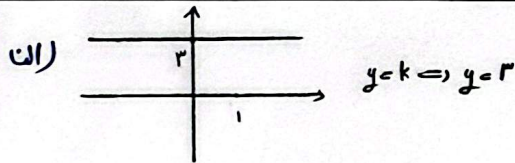
$$\text{ج)} \quad \sqrt{x-2} + |y-2| = 0$$

$$\begin{aligned} \sqrt{x-2} &= -|y-2| \\ \sqrt{x-2} &= -|y_2-2| \end{aligned} \quad \left. \begin{aligned} x_1 = x_2 \\ |y_1-2| = |y_2-2| \end{aligned} \right\} \Rightarrow \text{تابع نیست}$$

$$\begin{aligned} \text{ب)} \quad |y| + x^2 = x + 3 &\Rightarrow |y_1| = -x_1^2 + x_1 + 3 \\ |y_2| &= -x_2^2 + x_2 + 3 \end{aligned} \quad \left. \begin{aligned} x_1 = x_2 \\ |y_1| = |y_2| \end{aligned} \right\} \Rightarrow \text{تابع نیست}$$

$$|y_1| = |y_2| \Rightarrow y_1 = \pm y_2 \quad \text{تابع نیست}$$

$$\text{د)} \quad x = \cos y \quad y = 2k\pi + \frac{\pi}{2} \leftarrow x = 0 \quad \text{تابع نیست}$$

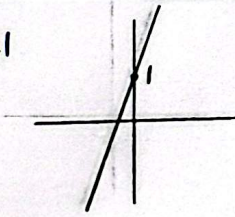


$$\text{و)} \quad y = ax + b \Rightarrow \begin{cases} a \neq 0 \\ b = 0 \end{cases} \Rightarrow \text{تابع}$$

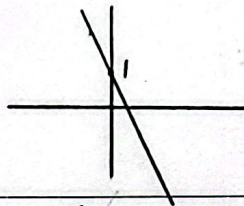
$$\begin{aligned} x &\Rightarrow -\frac{b}{ra} = r \Rightarrow -\frac{a}{r} = r \Rightarrow -a = r^2 \Rightarrow a = -r^2 \quad \text{و} \quad b = 0 \\ a + rb &= -r^2 + 0 = -r^2 \end{aligned}$$

$$\text{ب)} \quad y = x^{\frac{r}{2}} + ax + b$$

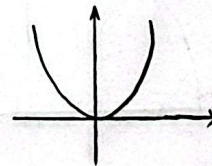
$$\text{و)} \quad y = 2x + 1$$



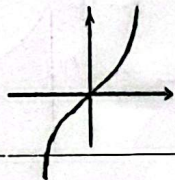
$$\text{ب)} \quad -3x + 1 = y$$



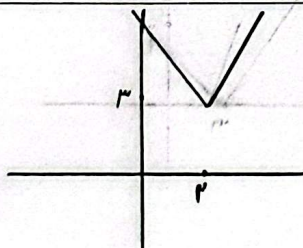
$$\text{ج)} \quad y = x^2$$



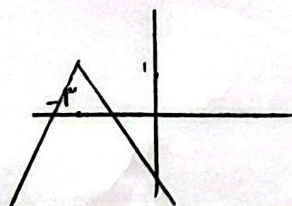
$$\text{د)} \quad y = x^3$$

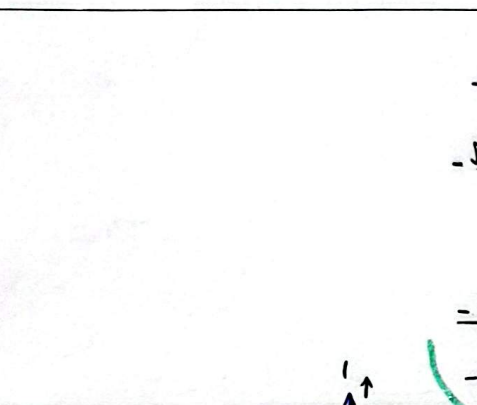
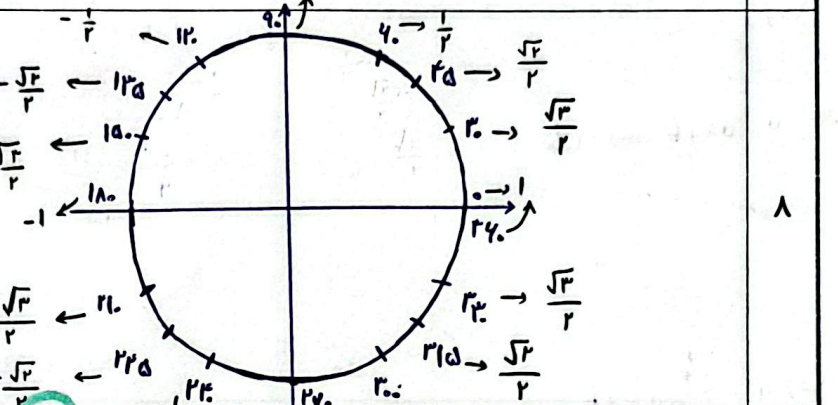
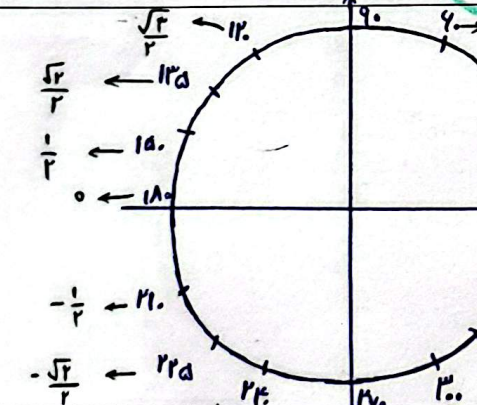
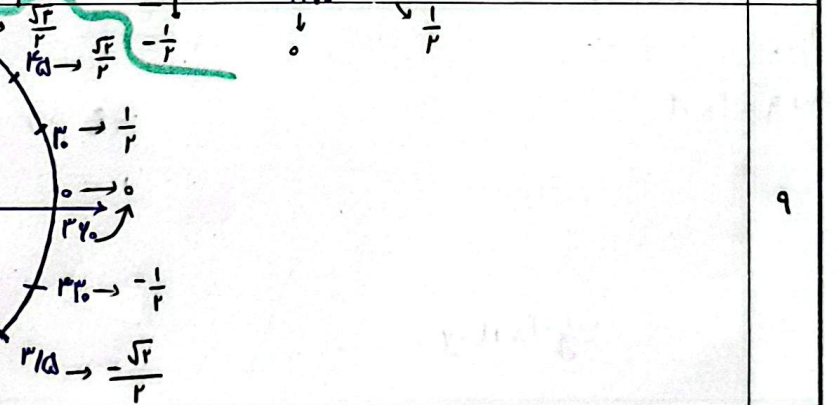


$$\text{و)} \quad y = |x-2| + 3$$



$$\text{ب)} \quad y = -|x+3| + 1$$



$z \in \mathbb{R}$ الف) $\frac{z+1}{z^2-1} =$ $z^2-1 \neq 0 \Rightarrow z(z-1) \neq 0 \Rightarrow$ 1) $z \neq 0$ 2) $z \neq 1$ $D_f = \mathbb{R} - \{0, 1\}$	$z \in \mathbb{R}$ ب) $\frac{z+1}{z^2-1} = \frac{z^2-1}{z^2-1} \neq 0$ $z^2-1 \neq 0 \Rightarrow z \neq \pm 1$ $D_f = \mathbb{R} - \{\pm 1\}$
$z \in \mathbb{R}$ ج) $\frac{z+1}{z^2+1} \Rightarrow z^2+1 \neq 0 \Rightarrow$ $z^2+1 \neq 0 \Rightarrow z \neq \pm i$ $D_f = \mathbb{R}$ الف) $\sqrt{4-x} + \sqrt{x-1} =$ $x \leq 4 \cup x \geq 1 \Rightarrow D_f = [1, 4]$ ب) $\frac{x+1}{x^2+1} = \frac{x^2+1}{x^2+1} \neq 0 \Rightarrow x^2+1 \neq 0 \Rightarrow$ $D_f = \mathbb{R} \setminus \{0\}$	$z \in \mathbb{R}$ د) $\frac{z+1}{z^2-1} = \frac{z^2-1}{z^2-1} \neq 0 \Rightarrow z \neq \pm 1$ $D_f = \mathbb{R} - \{\pm 1\}$ هـ) $\frac{\sqrt{x-1}}{x-1} = \frac{1}{\sqrt{x-1}}$ $x \geq 1 \Rightarrow D_f = [1, +\infty) - \{1\}$
	
	
الف) $-\left(-\frac{1}{r}\right) = \frac{1}{r} \Rightarrow$ 1) $\frac{\pi}{4}$, 2) $\frac{5\pi}{4}$ ب) $-\frac{\sqrt{2}}{r} \Rightarrow$ 1) $\frac{3\pi}{4}$, 2) $\frac{5\pi}{4}$	الف) $-\left(-\frac{1}{r}\right) = \frac{1}{r} \Rightarrow$ 1) $\frac{\pi}{4}$, 2) $\frac{5\pi}{4}$ ب) $-\frac{\sqrt{2}}{r} \Rightarrow$ 1) $\frac{3\pi}{4}$, 2) $\frac{5\pi}{4}$