

۱) $y^2 - x = 2x^2$ $y^2 = 2x^2 + x$ $y = \pm \sqrt{2x^2 + x}$ ۲) $y + x^2 = x + 2$ $y = 2 - x^2$ $y = \pm \sqrt{2 - x^2}$ ۳) $\sqrt{x-4} + y-2 = 0 \rightarrow \sqrt{x-4} = 0 \wedge y-2 = 0 \rightarrow x=4 \wedge y=2$ ۴) $x = \cos y$ $\cos y = 0 \rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$	یابن صحیح	۱،۷۵
۱) $y = 2x$ $b=0$	۲) $y = k$ $y = 1$	۲
۱) $a=1$ $b=0$ $y = x$ ۲) $a + 2b = 1 + 2(0) = 1$	۳) $y = x^2 + ax + b$ $1 = 2 + (-4)x + b$ $b = 3$	۲
۱) $a + 2b = -4 + 2(2) = 0$ $b = 2$	۲) $y = x^2 + ax + b$ $1 = 2 + (-4)x + b$ $b = 3$	۲
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$$1) \frac{x+f}{x^2-fx} = \frac{x^2-fx}{x^2-fx} \neq 0 \quad D_f = \mathbb{R} - \{0, f\}$$

$$2) \frac{x+f}{x^2-fx} = \frac{x^2-fx}{x^2-fx} \neq 0 \quad D_f = \mathbb{R} - \{0, f\}$$

$$3) \frac{x+f}{x^2-\sqrt{x+4}} = \frac{x^2-\sqrt{x+4}}{x^2-\sqrt{x+4}} \neq 0 \quad D_f = \mathbb{R}$$

$$\frac{x^2-fx}{x^2-fx} \neq 0$$

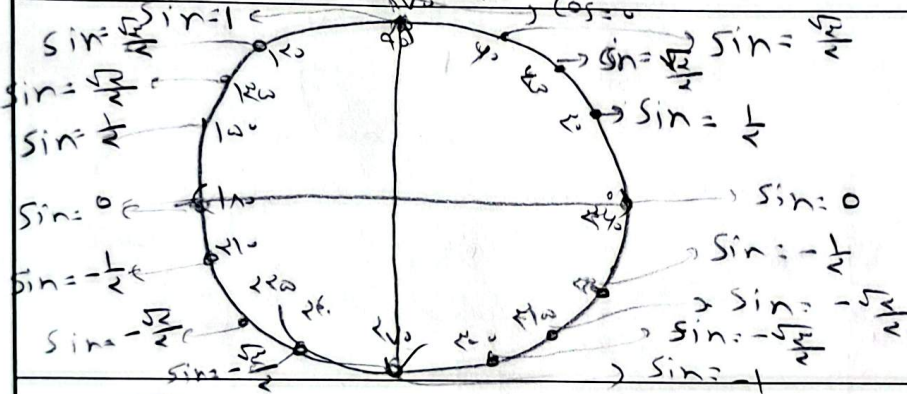
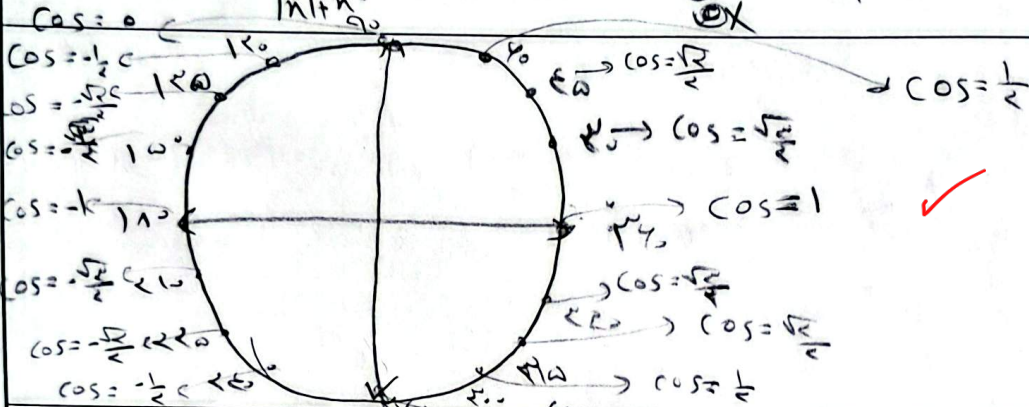
$$4) \frac{x+f}{x^2+x+f} = \frac{x^2+x+f}{x^2+x+f} \neq 0 \quad D_f = \mathbb{R}$$

$$5) y = \sqrt{4-x} + \sqrt{x-2} \rightarrow 4-x \geq 0 \quad x-2 \geq 0 \quad 2 \leq x \leq 4$$

$$6) y = \frac{x+1}{x^2+1} \quad x^2+1 \neq 0 \quad x^2 \neq -1 \rightarrow \mathbb{R} \quad D_f = \mathbb{R}$$

$$7) \frac{\sqrt{x-2}}{x-f} \quad x-f \neq 0 \quad x \neq f \quad x-2 \geq 0 \quad (x \geq 2) \quad D_f = (\mathbb{R} - \{f\}) - (-\infty, 2)$$

$$8) \frac{x+x^2}{|x|+x^2} = |x|+x^2 \neq 0 \quad D_f = \mathbb{R} - \{0\}$$



$$\sin \frac{\pi}{6} = \frac{1}{2}$$

$$\sin \frac{\pi}{6} = \frac{1}{2}$$

$$\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$$

$$\sin \frac{\pi}{2} = 1 \quad \sin \frac{3\pi}{2} = -1$$

$$\cos \frac{\pi}{2} = 0 \quad \cos \frac{3\pi}{2} = 0$$

$$y^3 - x = 2x^2 \quad \text{الف}$$

$$\left. \begin{array}{l} y_1^3 = x_1 + 2x_1^2 \\ y_2^3 = x_2 + 2x_2^2 \end{array} \right\} \xrightarrow{x_1 = x_2} \begin{array}{l} y_1^3 = x + 2x^2 \\ y_2^3 = x + 2x^2 \end{array} \rightarrow y_1^3 = y_2^3 \Rightarrow \underline{\underline{y_1 = y_2}} \quad \text{تابع است.}$$

* برای اثبات تابع بودن نباید مثال نقض بزنیم!