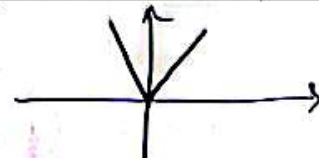
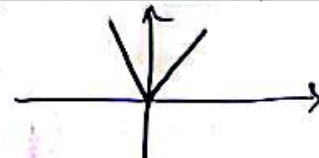
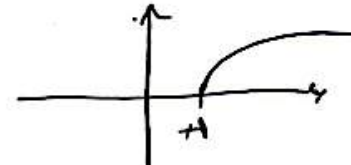


$$2a = a^2 + 4 \Rightarrow a^2 + 4 - 2a = 0 \Rightarrow (a-1)(a+4) = 0$$

$$a=1 \left\{ (1, 2), (1, 4), (2, 4) \right\} \rightarrow \text{تابع}$$

$$a=-4 \left\{ (1, -14), (1, 14), (2, -12) \right\} \rightarrow \text{تابع}$$

الف) $|x| = y \rightarrow$ 
 $|x| = -y \rightarrow$ 

ب) $\sqrt{x-1} = y \Rightarrow$ 

الف) $x=3 \Rightarrow |y-1| = \sqrt{3-2} \Rightarrow |y-1| = 1 \rightarrow y=0$ (تابع)

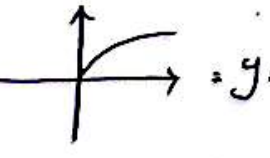
ب) $x=0 \Rightarrow y^5 - y = 0 \Rightarrow y(y^4 - 1) = 0 \Rightarrow y = 0, \pm 1$ (تابع)

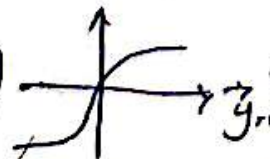
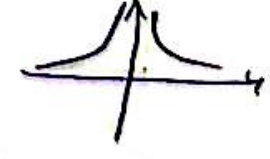
ج) $x=0 \Rightarrow \cos^2 \frac{y}{2} = 1 \Rightarrow \cos \frac{y}{2} = \pm 1 \Rightarrow y = 2k\pi$ (تابع)

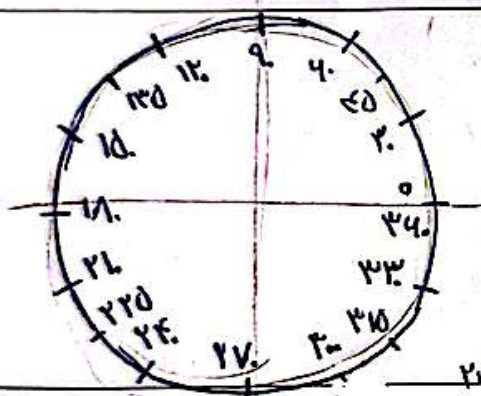
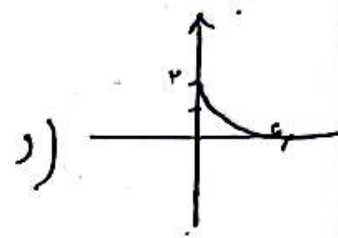
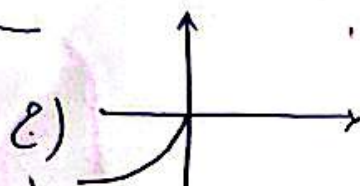
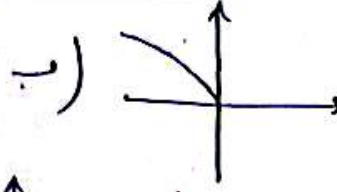
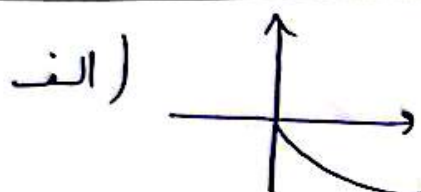
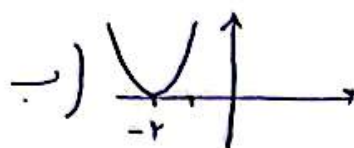
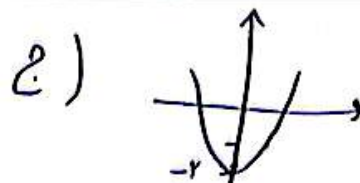
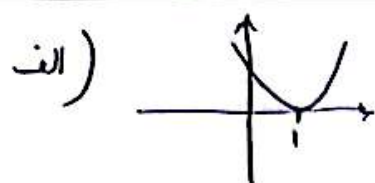
د) $x=0, y \in \mathbb{R}$ به ازای هر عدد حقیقی y می توانیم عدد حقیقی x پیدا کنیم. (تابع)

الف) $x=1 \rightarrow 1 + |y-1| = 4 \rightarrow |y-1| = 3 \Rightarrow y = 4, -2$ (مثلث متساوی الساقین) (تابع)

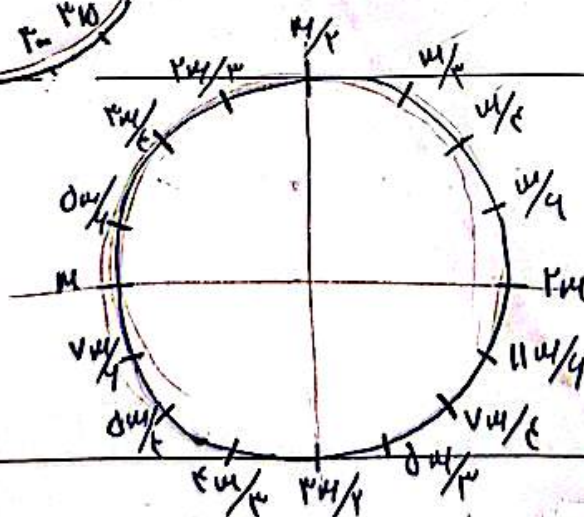
ب) $x_1 + y_1^0 = 0, x_2 + y_2^0 = 0 \Rightarrow x_1 = -y_1^0, x_2 = -y_2^0$ (تبدیل ریاضی) $y_1^0 = y_2^0 \Rightarrow y_1 = y_2$ (تابع)

الف) $y = \sqrt{x}$  ج) $y = \frac{1}{x^3}$ 

ب) $y = \sqrt[5]{x}$  د) $y = \frac{1}{x^4}$ 



بر حسب درجه



بر حسب راديان

الف) $\cos 120^\circ = -\frac{1}{2}$

ج) $\cos \frac{5\pi}{3} = \frac{1}{2}$

ب) $\sin 10^\circ = \frac{1}{2}$

د) $\sin \frac{11\pi}{4} = -\frac{1}{2}$