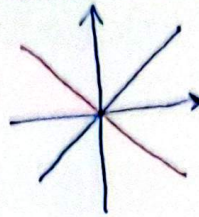


$$f = \{(1, 4), (1, 3), (2, 2)\}$$

۱- باید $(1, 4)$ و $(1, 3)$ را بزرگ کنیم تا تابع بشود

$$\alpha = 1 \Rightarrow (1, 4) \text{ و } (1, 3) \quad \alpha = 3 \Rightarrow (1, 12) \text{ و } (1, 12) \text{ و } (2, 9)$$

$$|a| = |x| \Rightarrow y = x \text{ یا } y = -x$$



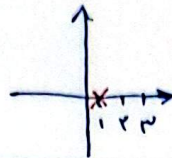
تابع نیست

$$\sqrt{x-1} = 0$$

نامنطق نامنطق

$$y = 0$$

$$\sqrt{x-1} = 0 \rightarrow x = 1$$



تابع هست

$$\text{الف) } |y-1| = \sqrt{x-2}$$

$$x = 6, y = 3, -1$$

تابع نیست

$$\text{ب) } y^2 - y = \frac{x^2}{2} \rightarrow y^2 - y = 0 \rightarrow y(y-1) = 0$$

$$x = 0$$

$$y = 0 \text{ و } 1$$

طبق این عبارت ۳ y داریم

تابع نیست

$$\text{ج) } \sin^2 x + \cos^2 \frac{y}{p} = 1 \rightarrow \sin^2(0) + \cos^2 \frac{y}{p} = 1$$

$$x = 0$$

$$\cos^2 \frac{y}{p} = 1$$

$$\frac{y}{p} = 2\pi \text{ یا } y = 4\pi$$

تابع نیست

$$\text{د) } 2xy = x \rightarrow 2xy - x \xrightarrow{\text{فاکتور}} x(2y-1)$$

$$x = 0 \text{ و } y = 0 \text{ یا } y = 1$$

$$\text{الف) } x^2 + |y-1| = 4x \rightarrow |y-1| = 4x - x^2 \rightarrow |y-1| = x(4-x)$$

$$x = 4 \rightarrow |y-1| = 0 \rightarrow y = 1$$

تابع نیست

$$\text{ب) } y^2 + 3x = 0 \rightarrow y^2 = -3x \rightarrow y = \sqrt{-3x}$$

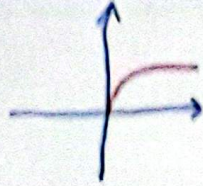
$$x = 1 \rightarrow y = \sqrt{-3} \Rightarrow y = \sqrt{3}$$

$$x = -1 \rightarrow y = \sqrt{3}$$

تابع هست

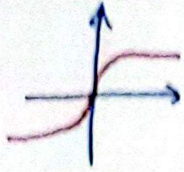
برای عبارت ب هر مقداری برای x بگذاریم نتیجه می ده

الف) $y = \sqrt{x}$



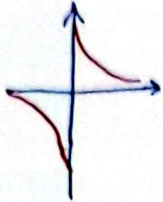
الف) برای x با فرجه زوج داریم

ب)



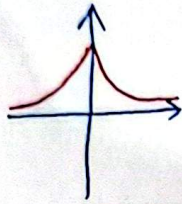
ب) برای x با فرجه فرد داریم

ج)



ج) برای $1/x$ با توان های فرد داریم

د)

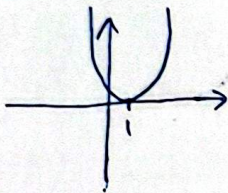


د) برای $1/x^2$ با توان های زوج داریم

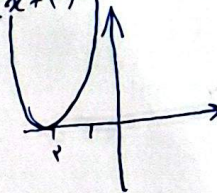
- ۶

الف)

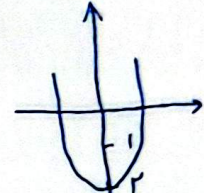
$y = \frac{1}{2}(x-1)^2$



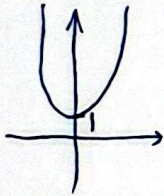
ب) $y = (x+2)^2$



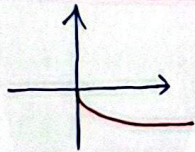
ج) $y = x^2 - 2$



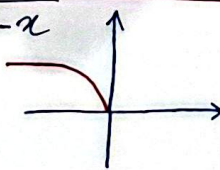
د) $y = x^2 + 1$



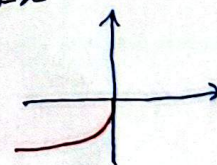
الف) $y = -\sqrt{x}$



ب) $y = \sqrt{-x}$

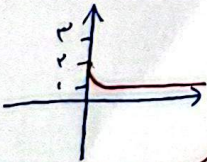


ج) $y = -\sqrt{-x}$

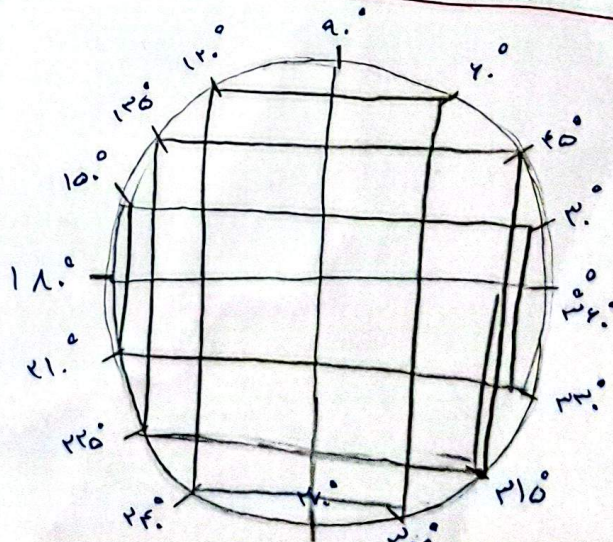


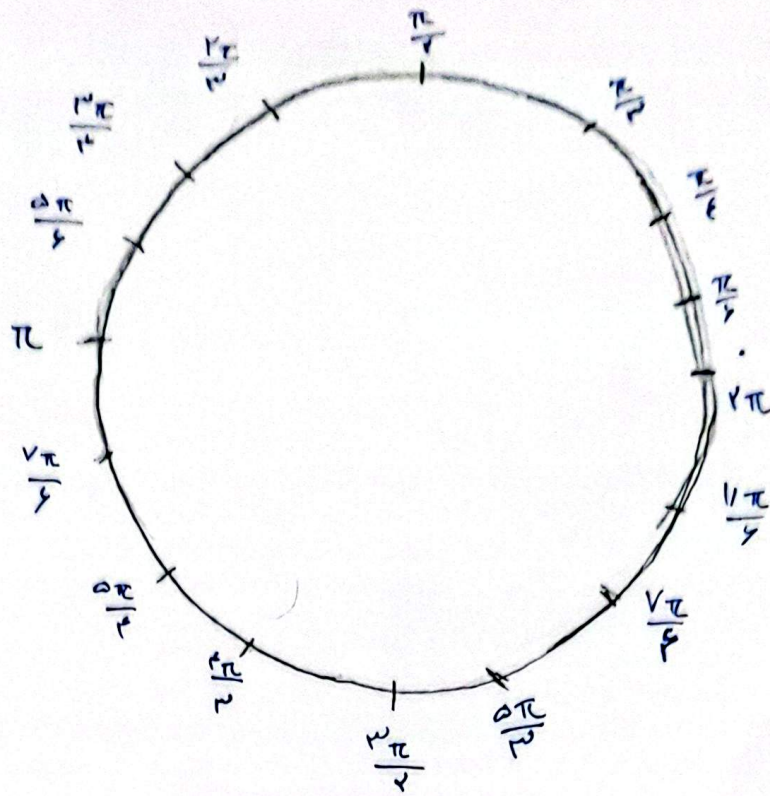
- ۷

د) $y = -\sqrt{x} + 2$



- ۸





الف) $\cos 120^\circ = -\frac{1}{2}$

ب) $\sin 10^\circ = \frac{1}{2}$

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

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