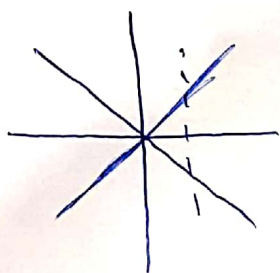


$$f = \{(1, fa), (1, a^2 + 3), (2, 3a)\}$$

$$fa = a^2 + 3 \Rightarrow a^2 + 3 - fa = 0 \Rightarrow (a - 3)(a - 1) = 0 \Rightarrow \boxed{a = 3, 1}$$

۱

$$\text{تابع است } |y| = |a|$$



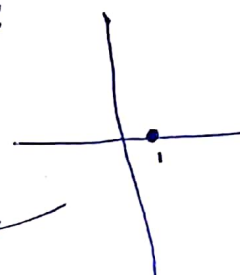
۲ بار هم خط
 را قطع می کند
 پس تابع نیست

$$\text{تابع است } |y| + \sqrt{a-1} = 0$$

مجموعه نامنفی

$$\Rightarrow y = 0 \text{ و } a = 1$$

فقط یک نقطه



۲

$$\text{تابع نیست } |y-1| = \sqrt{a-2} \quad \boxed{a=3} \Rightarrow |y-1| = 1 \Rightarrow y = 0 \text{ یا } 2$$

$$\text{تابع نیست } y = \frac{a^2-1}{4} \Rightarrow \boxed{a=0} \Rightarrow y = 0 \Rightarrow y = 1 \text{ یا } -1$$

$$\text{تابع نیست } \sin^2 a + \cos^2 \frac{y}{2} = 1 \Rightarrow \boxed{a=90^\circ} \Rightarrow 1 + \cos^2 \frac{y}{2} = 1 \Rightarrow y = 90^\circ \text{ و } 270^\circ$$

$$\text{تابع نیست } 2xy = a \Rightarrow \boxed{a=0} \Rightarrow 2x \times y = 0 \Rightarrow y = \mathbb{R}$$

۳

$$\text{تابع نیست } a^2 + |y-1| = fa \Rightarrow \boxed{a=1} \Rightarrow 1 + |y-1| = 4 \Rightarrow y = 4, -2$$

۴

$$\text{ب) } y^5 + 4a = 0$$

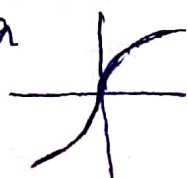
$$\{(a_1, y_1), (a_2, y_2)\} \Rightarrow y_1 = y_2 \quad \checkmark \text{ تابع است}$$

$$\Rightarrow y_1 = y_2$$

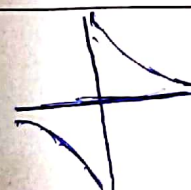
$$\text{الف) } y = \sqrt{a}$$



$$\text{ب) } y = \sqrt[4]{a}$$



$$\text{ج) } \frac{1}{a^3} = y$$

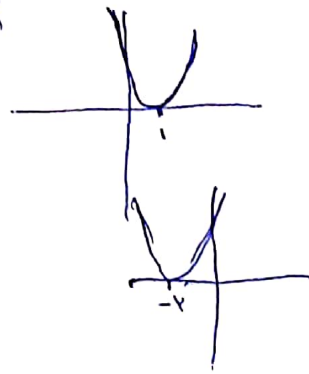


$$\text{د) } y = \frac{1}{a^4}$$



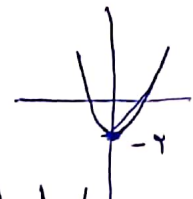
۵

$$الف) y = (a-1)^x$$

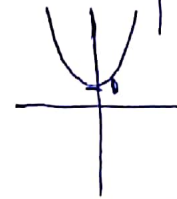


$$ب) y = (a+1)^x$$

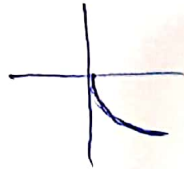
$$ع) y = a^x - 1$$



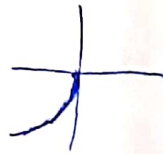
$$د) y = a^x + 1$$



$$الف) y = -\sqrt{a}$$



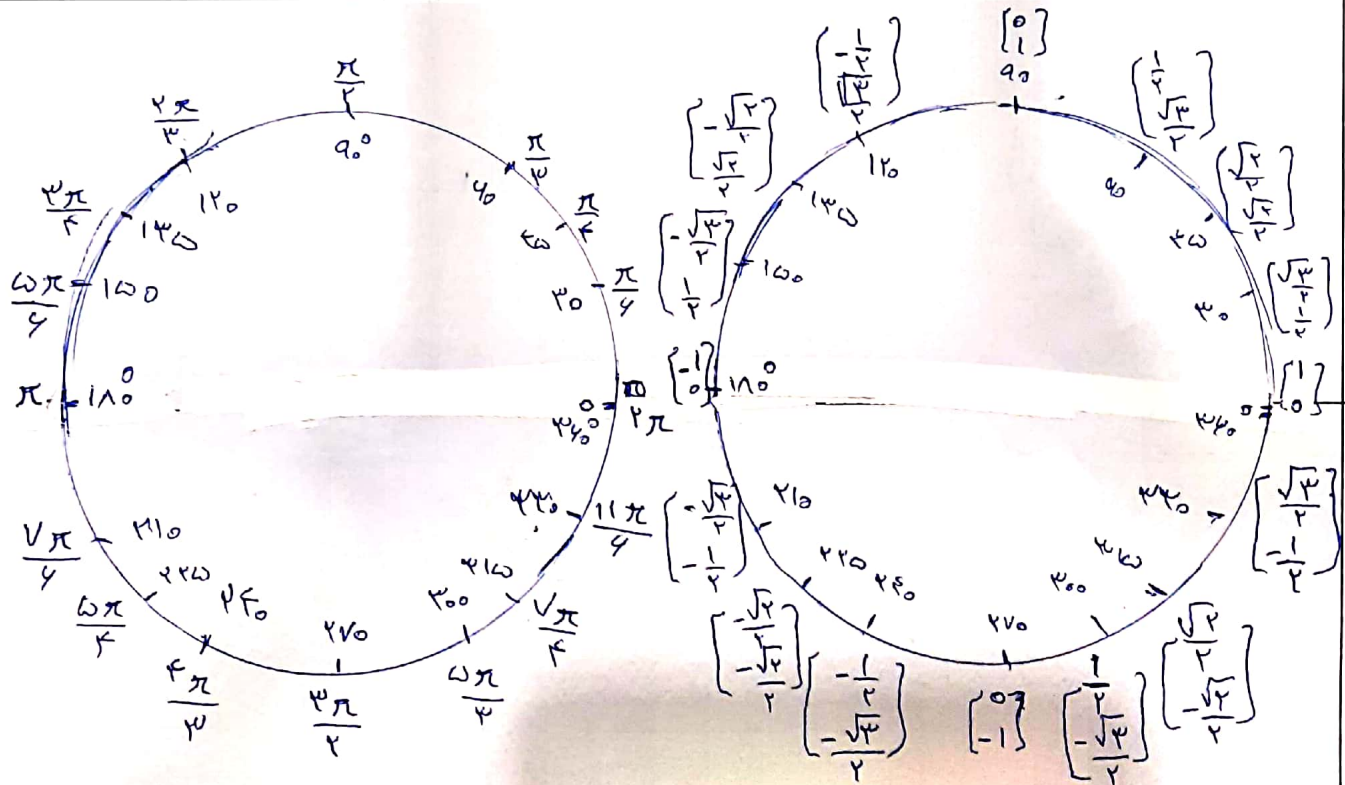
$$ع) y = -\sqrt{a}$$



$$ب) y = \sqrt{-a}$$



$$د) y = \sqrt{a} + 1$$



$$الف) \cos 120^\circ = -\frac{1}{2}$$

$$ب) \sin 120^\circ = \frac{\sqrt{3}}{2}$$

$$ع) \cos \frac{11\pi}{6} = \frac{1}{2}$$

$$د) \sin \frac{11\pi}{6} = -\frac{\sqrt{3}}{2}$$