

$$f_a = a^2 + 3$$

$$a^2 + 3 - f_a = 0$$

$$(a-3)(a-1) = 0$$

$$\downarrow \boxed{3}$$

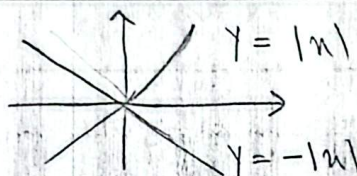
$$\downarrow \boxed{1}$$

$$a=3 \text{ و } a=1$$

1

الف) $|y| = |x|$

$$y = \pm |x|$$



تابع نسبت

2

ب) $|y| + \sqrt{x-1} = 0$

$$|y| \geq 0 \quad \sqrt{x-1} \geq 0$$

$$y=0$$

$$x-1 \geq 0$$

$$x \geq 1$$

(1,0)



تابع است

3

الف) $x=3 \rightarrow |y-1|=1 \rightarrow y-1 = \pm 1$

$$y-1 = 1 \rightarrow y = 1+1 = 2$$

$$y-1 = -1 \rightarrow y = 1-1 = 0$$

ب) $x=0 \rightarrow y(y^4-1) = 0$

$$y = 1 \text{ و } -1$$

ج) $x=0 \rightarrow \cos^2 \frac{y}{2} = 1 \rightarrow y = 0, 360^\circ, 180^\circ, \dots$

د) $x=0 \quad y(0) = 0 \rightarrow y = 0$ هر مقداری از y قابل قبول

4

الف) $|y-1| = \sqrt{x-x^2} \rightarrow y-1 = \pm (\sqrt{x-x^2})$

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

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

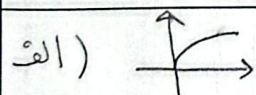
تابع نسبت

5

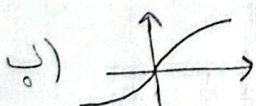
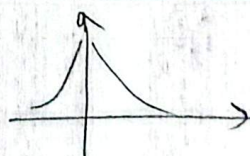
ب) $y^5 = -3x$

$$y = \sqrt[5]{-3x}$$

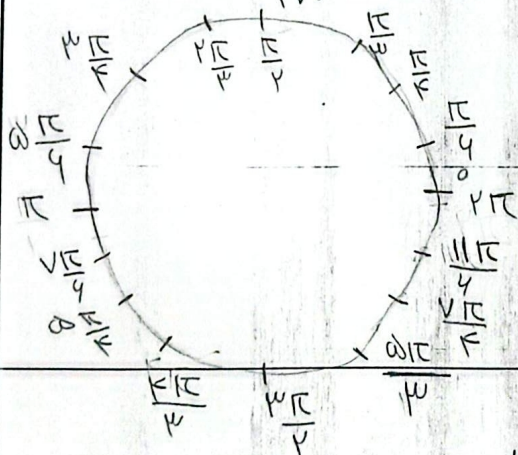
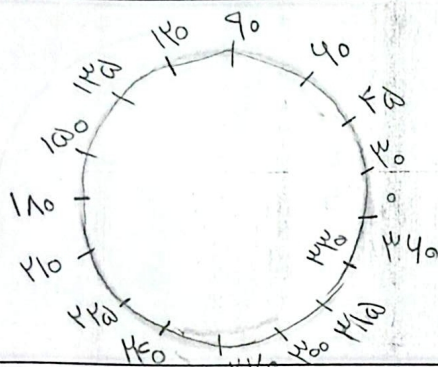
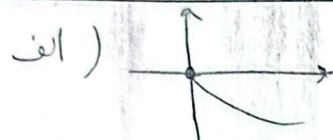
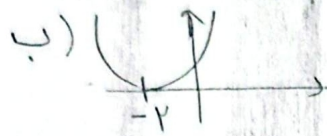
تابع است



د)



6



الف) $-\frac{1}{2}$

ب) $= \frac{1}{2}$

ج) $\frac{1}{2}$

د) $-\frac{1}{2}$