

نام و نام خانوادگی: سید احمد زاده 91185

$\checkmark$ $\frac{1}{4}$ ← $\frac{1}{2}$ تابع اول
 $\checkmark$ $x = \cos y$
 $\frac{d}{dy} x = 0 \Rightarrow \cos y = 0 \Rightarrow y = \frac{\pi}{2}$
 $\propto$ تابع نسبت

2) $y = a^x$



$\omega) \frac{a+f}{a^2-fa} = y \Rightarrow a^2-fa \neq 0$
 $a^2-fa=0 \Rightarrow a=0 \text{ or } f$
 $\Rightarrow D_f = \mathbb{R} - \{0, f\} \rightarrow D_f = \mathbb{R} - \{0, f\}$
 $\checkmark) y = \frac{a+f}{a^2-fa}$
 $a^2-fa+1 \neq 0 \Rightarrow \Delta = b^2-4ac$
 $\Delta = (-1)^2 - 4 \times 1 \times 1 = 1 - 4 = -3$
 $\Delta < 0 \Rightarrow$ $\Rightarrow$ $D_f = \mathbb{R}$

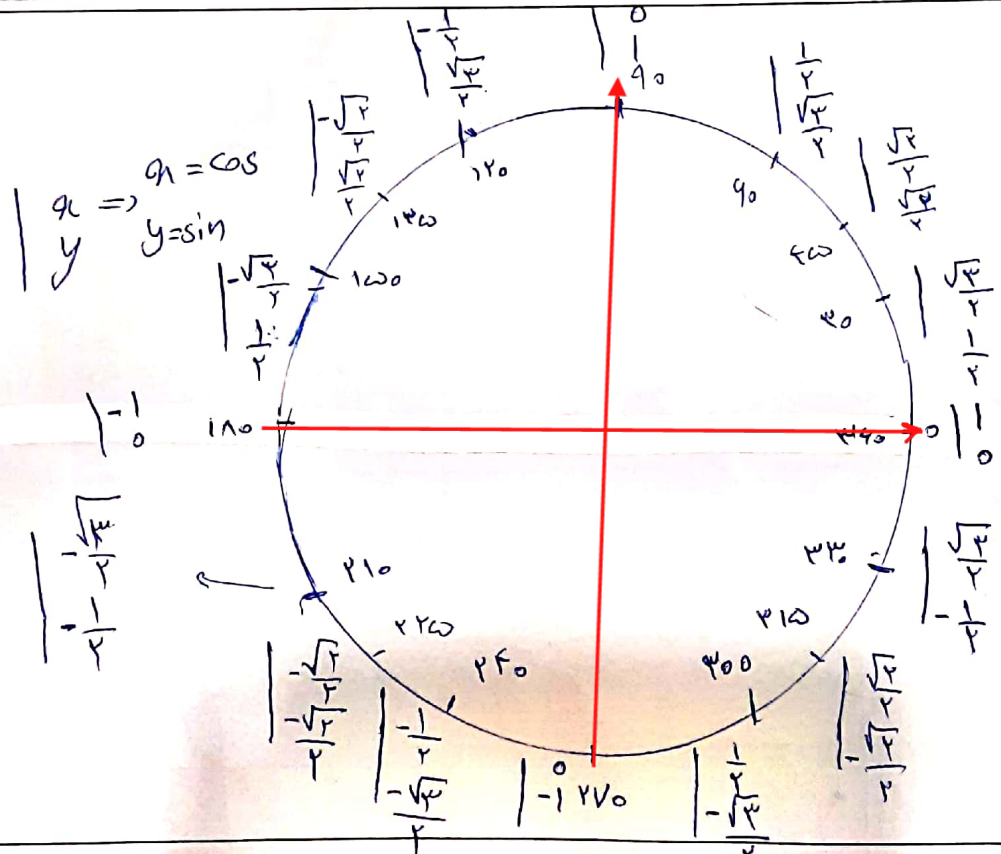
$\checkmark) \frac{a+f}{a^2-fa} = y \Rightarrow a^2-fa \neq 0$
 $\Delta = 1 - 4 \times 1 \times 1 = 1 - 4 = -3$
 $\Delta < 0 \Rightarrow D_f = \mathbb{R}$
 $\Rightarrow y = \frac{a+f}{a^2-fa} \Rightarrow a^2-fa \neq 0$
 $a \neq 0, f \Rightarrow D = \mathbb{R} - \{0, f\}$

$\checkmark) y = \sqrt{4-x} + \sqrt{x-2}$
 $4-x \geq 0 \Rightarrow x \leq 4$
 $x-2 \geq 0 \Rightarrow x \geq 2$
 $\Rightarrow D = [2, 4]$

$\checkmark) \sqrt{x-2} \Rightarrow x-2 \geq 0$
 $x \geq 2$
 $\Rightarrow D = [2, 4] \cup (4, +\infty)$

$\checkmark) y = \frac{x+1}{x^2+1} \Rightarrow x^2+1 \neq 0$
 $\Rightarrow x^2 \geq 0 \Rightarrow x^2+1 > 0$
 $D = \mathbb{R}$

$\checkmark) \frac{x+1}{x^2+1} \Rightarrow |x|+x^2 \neq 0$
 $x \neq 0 \Rightarrow D = \mathbb{R} - \{0\}$



$\omega) -\cos \frac{2\pi}{3} = -(-\frac{1}{2}) = +\frac{1}{2} = \sin \frac{\omega\pi}{3}, \sin \frac{\pi}{3}$

$\text{ب) } -\cos \frac{11\pi}{3} = -\frac{\sqrt{3}}{2} = \sin \frac{f\pi}{3}, \frac{\omega\pi}{3}$