

الف) $\frac{x+f}{x^2-fx} \cdot y$ $x^2-fx \neq 0 \Rightarrow x(x-f) \neq 0$
 $\Rightarrow D_f = \mathbb{R} - \{0, f\}$

ب) $y = \frac{x+f}{x^2-4x+4}$ $x^2-4x+4 \neq 0$
 این عبارت را می توان نوشت
 $\Rightarrow D_f = \mathbb{R}$

ج) $y = \frac{x+f}{x^2+x+f}$ $\Rightarrow x^2+x+f \neq 0$
 این عبارت را می توان نوشت
 $\Rightarrow D_f = \mathbb{R}$

د) $y = \frac{x+f}{x^2-fx^2}$ $\Rightarrow x^2-fx^2 \neq 0$
 $\Rightarrow x^2(x-f) \neq 0$
 $\Rightarrow x(x+f)(x-f) \neq 0$
 $\Rightarrow D_f = \mathbb{R} - \{0, f, -f\}$

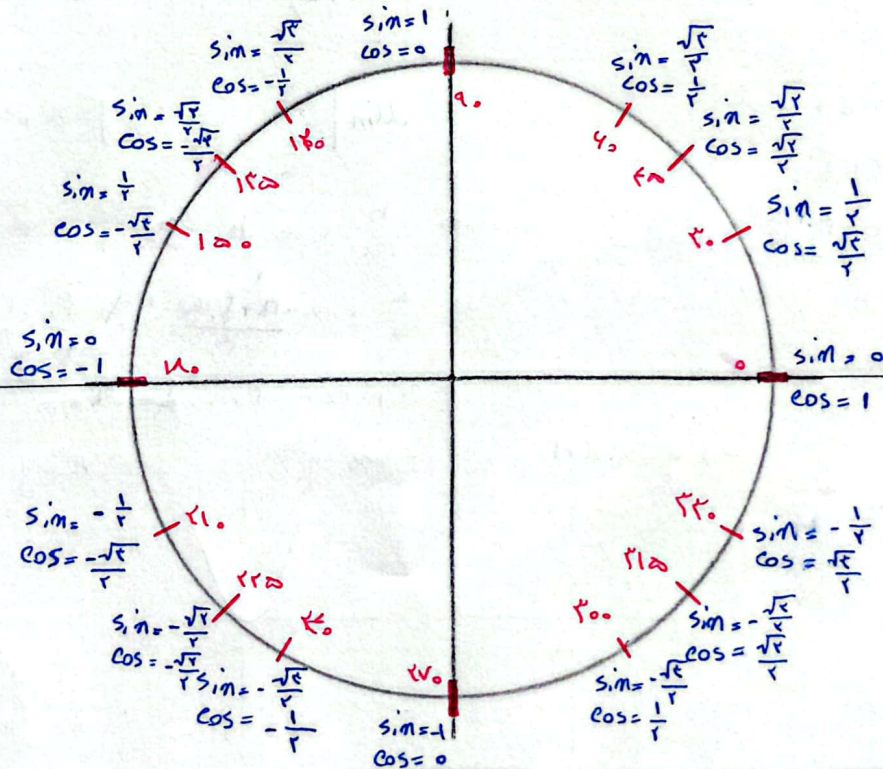
الف) $y = \sqrt{4-x} + \sqrt{x-2}$
 $4-x \geq 0 \Rightarrow x \leq 4$
 $x-2 \geq 0 \Rightarrow x \geq 2$
 $\Rightarrow D_f = [2, 4]$

ب) $y = \frac{x^2+1}{x^2+1}$ $\Rightarrow x^2+1 \neq 0$
 این عبارت همیشه مثبت است
 $\Rightarrow D_f = \mathbb{R}$

ج) $y = \frac{\sqrt{x-2}}{x-f}$ $\Rightarrow x-2 \geq 0 \Rightarrow x \geq 2$
 $x-f \neq 0 \Rightarrow x \neq f$

د) $y = \frac{x^2+x^2}{|x|+x^2}$ $\Rightarrow |x|+x^2 \neq 0 \Rightarrow x \neq 0$
 $\Rightarrow D_f = \mathbb{R} - \{0\}$

$\Rightarrow D_f = [2, f) \cup (f, +\infty)$



الف) $\frac{2\pi}{r} = 120^\circ$ $\cos 120^\circ = -\frac{1}{r}$ $\sin 120^\circ = -(-\frac{1}{r}) \Rightarrow \sin 120^\circ = \frac{1}{r} \Rightarrow x = 2k\pi + \frac{\pi}{3}, 2k\pi + \frac{2\pi}{3}$

ب) $\frac{11\pi}{4} = 315^\circ$ $\cos 315^\circ = \frac{\sqrt{2}}{r}$ $\sin 315^\circ = -\frac{\sqrt{2}}{r} \Rightarrow x = 2k\pi + \frac{7\pi}{4}, 2k\pi + \frac{5\pi}{4}$
 $x = 2k\pi + \frac{7\pi}{4}, 2k\pi + \frac{5\pi}{4}$