

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

ب) $y = \frac{x+f}{x^2-4x+4} = \frac{\Delta}{\Delta_0} = 49-4f = -1d \rightarrow$ مقلوب $\rightarrow x^2-4x+4 \neq 0 \Rightarrow D = \mathbb{R}$

ج) $y = \frac{x+f}{x^2-x+f} \Rightarrow \frac{\Delta}{\Delta_0} = 1-4f = -1d \rightarrow x^2+x+f \neq 0 \Rightarrow D = \mathbb{R}$

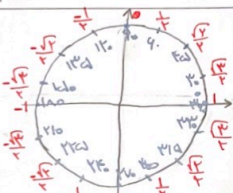
د) $y = \frac{x+f}{x^2-fx} \Rightarrow x^2-fx \neq 0 \Rightarrow x^2(x-f) \Rightarrow x^2(x-f)(x+f) \neq 0 \Rightarrow D: \mathbb{R} - \{0, f, -f\}$

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

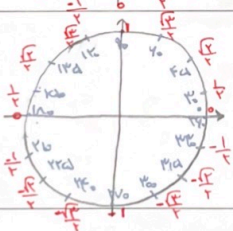
و) $y = \frac{x+1}{x^2+1} \Rightarrow x^2+1 \neq 0 \Rightarrow x^2 \neq -1 \Rightarrow D = \mathbb{R}$

ز) $y = \frac{\sqrt{x-f}}{x-f} = x-f \neq 0 \Rightarrow x \neq f, x-f \geq 0 \Rightarrow x \geq f \Rightarrow [f, f) \cup (f, \infty) = D$

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



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الف) $-\cos \frac{\pi}{4} = +\frac{1}{4} \Rightarrow \sin \frac{\pi}{4}, \sin \frac{\pi}{4}$

ب) $-\cos \frac{11\pi}{4} = -\frac{\sqrt{2}}{2} \Rightarrow \sin \frac{\pi}{4}, \sin \frac{5\pi}{4}$

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