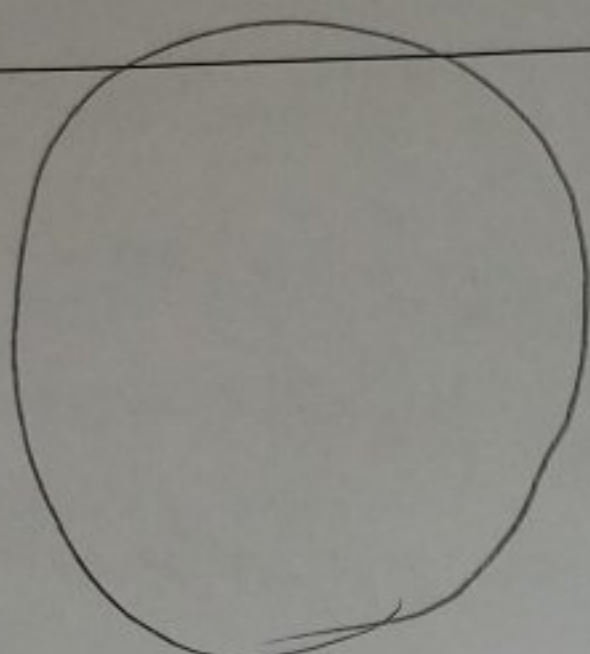




در صفحه آخر راه حل را کامل بنویس!

۱) $\frac{1}{r} = -1 + r(-1) = -\frac{a}{r} = -\frac{1}{r}$

۲) $-\left(-\frac{\sqrt{3}}{r}\right) + \frac{\sqrt{3}}{r} - r\left(-\frac{\sqrt{3}}{r}\right) = \frac{a\sqrt{3}}{r}$

۳) $-\frac{1}{\sqrt{r}} + r\left(\frac{1}{\sqrt{r}}\right) - r\left(-\frac{1}{\sqrt{r}}\right) = \frac{1}{\sqrt{r}} + \frac{r\sqrt{r}}{r}$

۴) $\cos\left(\frac{\pi}{4}\right) + \sin\left(\frac{\pi}{4}\right) = 1 + \sin\left(\frac{\pi}{4}\right) = 2$

$a^2 + 9a = 2a + a + 2 \sim a^2 + a - 2 = 0 \rightarrow (a+2)(a-1) = 0$

$a > 0 \rightarrow a = 1$

$f(1) = 1 + \cos(1) = \frac{1}{2}$

در هر دو $\rightarrow |-x+1| = 1-r = 2 > 2 \checkmark$

$\Rightarrow r(-r)^2 - b = a + r(-r) \rightarrow (A-b) = a - r$

$a+b = 24$

$a^2 \in \mathbb{R} \neq 0 \rightarrow a^2(a-2) \neq 0 \rightarrow D = \mathbb{R} - \{2\}$

۲) $r(a^2+1)(a+1) \rightarrow -r \Rightarrow \frac{1}{r} \rightarrow \frac{1}{r} \neq 0$

$a^2 - 1 \geq 0 \rightarrow |a| \geq 1$

الف) $a - 2 \geq 0 \rightarrow a \geq 2$

ب) $4a - 3 \geq 0 \rightarrow a \geq \frac{3}{4}$

$4a - 3 > 0 \rightarrow a > \frac{3}{4} \rightarrow \sqrt{4a-3} \neq 0 \rightarrow a \neq \frac{3}{4} \rightarrow \left(\frac{3}{4}, \frac{3}{4}\right) \cup \left(\frac{3}{4}, 2\right]$

$4a - a \geq 0 \rightarrow a \geq \frac{a}{3}$

$b - 3a \geq 0 \rightarrow a \leq \frac{b}{3}$

$\frac{a}{3} = \frac{b}{3} = 2 \rightarrow a = 6, b = 6$

$\frac{b}{a} = ? \rightarrow \frac{6}{6} = 1$

$D = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup [3, +\infty)$

الف) $\sqrt{(a-3)(a+2)}$

$(a^2-9)(a^2+4) \rightarrow (a-3)(a+3)(a-2)(a+2)$

$a \neq 3, -3, 2, -2$

$\rightarrow \frac{(a+3)(a+2)}{(a-3)(a+3)(a+2)(a+2)} \geq 0 \rightarrow \frac{1}{(a+2)(a-2)} \geq 0$

$\rightarrow D = (-\infty, -3) \cup (2, +\infty) - \{3, -3, 2, -2\}$

$\rightarrow (2, +\infty) \cup (-\infty, -3)$

ب) $r[a] - 2 \geq 0$

$r[a] \geq 2 \rightarrow [a] \geq 2 \rightarrow a \geq 2 \Rightarrow D = [2, +\infty)$

ج) $r[a] - 2 \geq 0 \rightarrow [a] \geq \frac{2}{r} \rightarrow [a] \geq 1$

$a \geq 1 \Rightarrow D = [1, +\infty)$

د) $\frac{a+1}{|a-3|} \geq 0 \rightarrow |a-3| > 0 \quad (a \neq 3)$

$a+1 > 0 \rightarrow a > -1$

$a \neq 3$

$\Rightarrow D = [-1, 3) \cup (3, 4]$

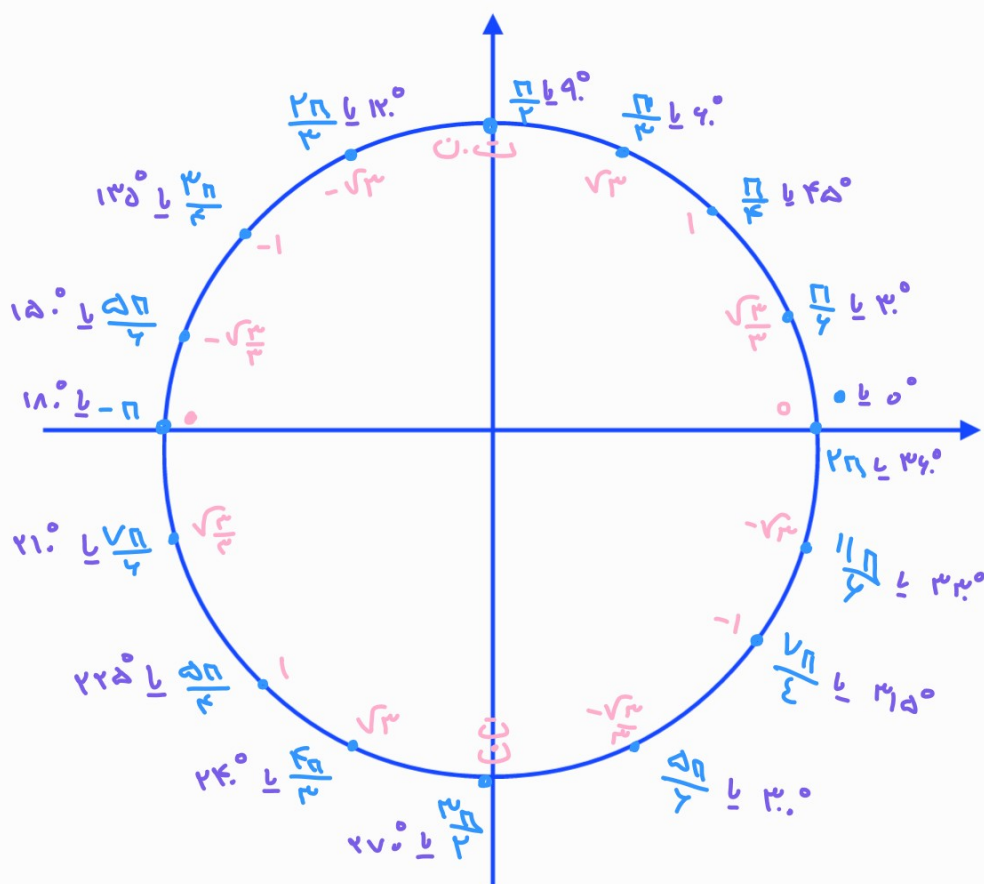
$\Rightarrow D = [-1, 3) \cup (3, +\infty)$

$\frac{a+1}{a^2+1a+2} \geq 0$
 $(a+1)[a^2+1a+2] \geq 0$
 $a+1 \geq 0$
 $a \leq 4$
 $D = (-\infty, 4]$

ه) $[a] - 4 \geq 0 \rightarrow [a] \geq 4$

$\Rightarrow D = \emptyset$

$1 - [a] \geq 0 \rightarrow [a] \leq 1$



$\tan \leftarrow$ ■
 زاویه بر حسب رادیان $\leftarrow$ ■
 زاویه بر حسب درجه $\leftarrow$ ■

$$\tan u = \frac{\sin u}{\cos u}$$

عبارت زیر را برای $y = \frac{\sqrt{4-3x}}{\sqrt{4x-3}}$ باید ناقص و عبارت صفر مختلف صفر باشد ...

$$4-3x \geq 0 \rightarrow x \leq \frac{4}{3}$$

$$4x-3 > 0 \rightarrow x > \frac{3}{4}$$

$$\rightarrow \frac{3}{4} < x \leq \frac{4}{3} \rightarrow D_f = \left(\frac{3}{4}, \frac{4}{3} \right]$$