

$$\sqrt{(a-2)x^2+ax+b} \rightarrow \sqrt{2x+b} \rightarrow x=c \rightarrow \sqrt{9+b}=0$$

$\downarrow$

$$\boxed{b=-9}$$

$\hookrightarrow a=2$
بله (نه ۱ باشد)

$$\sqrt{x^2+2x+2-m^2} \rightarrow \Delta \leq 0 \sim \Sigma - \Sigma(2-m^2) \leq 0$$

$$\rightarrow 2-m^2 \geq 1 \rightarrow m^2 \leq 1 \rightarrow -1 \leq m \leq 1$$

$$\hookrightarrow 1-(-1)=2$$

$$\Sigma - x^2 \geq 0 \rightarrow 1 \leq x \leq 2$$

$$[x] + [-x] + 1 \neq 0 \sim [x] + [-x] \neq -1 \sim x \in \mathbb{Z} \left\{ x = \{-2, -1, 0, 1, 2\} \right\}$$

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الف) $\sqrt{x^2+2x^2} \rightarrow \frac{-2 \pm \sqrt{4+8}}{2} \rightarrow D_f = [-2, \infty)$

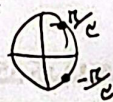
ب) $\sqrt{\frac{(x^2-1)(x^2-2x^2)+0}{x^2-1}} \rightarrow \frac{-1 \pm \sqrt{1+1}}{1 \pm 1} \rightarrow D_f = (-\infty, -1] \cup [1, \infty) \cup \{0\}$

الف) $|x-2| \geq 2 \rightarrow \begin{cases} x \geq 4 \\ x \leq -1 \end{cases} \rightarrow D_f = (-\infty, -1] \cup [4, \infty)$

ب) $|2-x| \leq 2 \rightarrow -2 \leq 2-x \leq 2$

$$-4 \leq -x \leq 2 \rightarrow +4 \geq x \geq -2$$

$$\rightarrow D_f = [-2, 4]$$

الف) $u \leq 1 \quad \left\{ \begin{array}{l} u > 0 \rightarrow u^2 \leq 1 \sim 0 \leq u \leq 1 \\ u < 0 \rightarrow -u^2 \leq 1 \quad \checkmark \text{ always} \end{array} \right\} \xrightarrow{U} D_f = (-\infty, 1]$	
ب) $\frac{1}{\sqrt{3- u-5 }-1} \rightarrow \sqrt{3- u-5 } \neq 1 \sim u-5 \neq 2 \rightarrow u \neq 3, 7$ $u-5 \leq c \rightarrow -c \leq u-5 \leq c \rightarrow 2 \leq u \leq 8 \quad \textcircled{1} D_f = [2, 8] - \{3, 7\}$	6
الف) $\cos u \neq 0 \rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$	
ب) $\cos u \neq \frac{1}{2} \rightarrow D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}$ 	7
الف) $2u+1 \neq u+c \xrightarrow{\text{square}} 4u^2 + 4u + 1 \neq u^2 + 2cu + c^2 \rightarrow 3u^2 - 2(c-1)u - (c^2-1) \neq 0 \rightarrow u \neq \frac{2(c-1) \pm \sqrt{4(c-1)^2 + 12(c^2-1)}}{6}$ ب) $2u+1 > u+c \rightarrow 4u^2 + 4u + 1 > u^2 + 2cu + c^2 \rightarrow 3u^2 - 2(c-1)u - (c^2-1) > 0 \rightarrow D_f = (-\infty, \frac{-2(c-1) - \sqrt{4(c-1)^2 + 12(c^2-1)}}{6}) \cup (\frac{-2(c-1) + \sqrt{4(c-1)^2 + 12(c^2-1)}}{6}, \infty)$	8
$\Rightarrow \left\{ \begin{array}{l} \log_{\frac{1}{2}} \frac{u-1}{5} \leq 1 \rightarrow \frac{u-1}{5} \leq \frac{1}{2} \rightarrow u \leq \frac{11}{2} \\ \log_{\frac{1}{2}} \frac{u-1}{5} > 0 \rightarrow \frac{u-1}{5} > 1 \rightarrow u > 6 \end{array} \right\} \rightarrow D_f = (1, \frac{11}{2}]$	9
الف) $\lg(\cos u + 1) \rightarrow \cos u + 1 > 0 \rightarrow \cos u > -1$ $\rightarrow D_f = \mathbb{R} - (2k\pi - \frac{\pi}{2}, 2k\pi + \frac{\pi}{2})$	10
ب) $\sqrt{\lg \frac{u-1}{u+1}} \rightarrow \frac{-1}{+1-1+} \rightarrow \lg \frac{u-1}{u+1} \geq 0 \rightarrow \frac{u-1}{u+1} \geq 1 \rightarrow \frac{-2}{u+1} \geq 0 \rightarrow D_f = (-\infty, -1)$ 