

$$21) \text{ If } \cos x + 1 \neq 0 \rightarrow \cos x \neq -\frac{1}{1}$$

$$D_f = R - \left\{ k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2} \right\}$$

$$\Rightarrow \frac{y \cdot \sin \pi r^2}{\cos \pi - 1} = \cos \pi - 1 \neq 0 \rightarrow \cos \pi \neq 1 \rightarrow Df = \mathbb{R} - \{1, \pi\}$$

ii) $\tan \alpha + 1 \neq 0 \rightarrow \tan \alpha \neq -1 \rightarrow \alpha \in \mathbb{R} \setminus \left\{ \gamma K_{\pi} + \frac{\pi}{4}, \frac{5\pi}{4}, \gamma K_{\pi} + \frac{5\pi}{4}, \gamma K_{\pi} + \frac{9\pi}{4} \right\}$

$$b) y = \frac{\cos x + 1}{\cos x - 1} \quad (\cos x - 1 \neq 0 \rightarrow \cos x \neq 1)$$

$$D_F = \mathbb{R} - \left\{ \frac{1}{F} k\pi + \frac{\pi}{F}, \frac{1}{F} k\pi + \pi, \frac{1}{F} k\pi + \frac{\omega\pi}{F} \right\}$$

2) $\sin y = x^{\frac{1}{2}}$ $\rightarrow -1 \leq x^{\frac{1}{2}} \leq 1 \rightarrow 1 \leq x^{\frac{1}{2}} \leq 2 \rightarrow 1 \leq x \leq 4$
 $-\sqrt{x} \leq x \leq -1$ $\therefore D = [1, 4] \cup [-\sqrt{x}, -1]$
 1/0

$$\text{ج) } x = \arccos(\sqrt{x} - 1) \quad -1 \leq \sqrt{x} - 1 \leq 1 \quad \begin{cases} x \geq 0 \\ 1 \leq \sqrt{x} \leq 2 \rightarrow 1 \leq x \leq 4 \end{cases}$$

الف) $\cos y = |x| - 2 \rightarrow -1 \leq |x| - 2 \leq 1 \rightarrow 1 \leq |x| \leq 3$
 $D_f = [-3, -1] \cup [1, 3]$

ج) $y = \arcsin(x^2 + 2x - 1)$

$$\begin{aligned} -1 &\leq x^T + r x + 1 \leq 1 \\ \downarrow & \quad \quad \quad \rightarrow \\ -r &\leq x(1+r) \leq 0 \end{aligned}$$

$a^r + r^n \leq$
 $a^r + r^n + r^n$

حل / $f = \log \frac{x^2 - 5}{x} \Rightarrow \begin{cases} x^2 - 5 > 0 \rightarrow x^2 > 5 \\ x > 0 \rightarrow x \neq 1 \end{cases} \quad \left[\begin{array}{l} x > \sqrt{5} \\ -x < -\sqrt{5} \end{array} \right]$
 $D_f = (-\infty, -\sqrt{5}) \cup (\sqrt{5}, +\infty)$

ii) $y = 1.2 \frac{r-1}{r}$

$$\begin{array}{ll} |x| > 0 & x > |x| \\ x > 0 & x \neq 1 \end{array}$$

$$D_f = (-1, 1)$$

