

$$|a| > 0 \rightarrow a = \sqrt{x^2 + b} \rightarrow \sqrt{x^2 + b} \rightarrow x^2 + b = 0 \Rightarrow b = -4 \quad (1)$$

$$\Delta \leq 0 \rightarrow \varepsilon - \varepsilon(1+m^2) \leq 0 \rightarrow m^2 - 1 \leq 0 \rightarrow m \geq -1 \rightarrow 1 - (-1) = 2 \quad (4)$$

$$\varepsilon - m^2 \geq 0 \rightarrow -2 \leq m \leq 2 \rightarrow 2.91909 - 1.9 - 2 \rightarrow 6.8 \quad (3)$$

$$[m] + [n] \neq -1 \rightarrow m \in \mathbb{Z} \quad (5)$$

$$\text{الف) } m^2 + n^2 \geq 0 \rightarrow m^2 (n+1) \geq 0 \rightarrow \frac{-1}{-1+1} \rightarrow DA = [-1, +\infty)$$

$$\text{ب) } \pm 1 \rightarrow \frac{-1}{-1+1} \rightarrow \frac{-1}{-1+1} \rightarrow DA = (-\infty, -1] \cup \{0\} \cup [1, +\infty)$$

$$\text{الف) } |m-1| \geq 1 \rightarrow m \geq 0 \rightarrow DA = (-\infty, -1] \cup [0, +\infty)$$

$$\text{ب) } |x-x| \leq \varepsilon \rightarrow -\varepsilon \leq x-1 \leq \varepsilon \rightarrow -2 \leq x \leq 4 \rightarrow DA = [-2, 4]$$

$$\text{الف) } |m| \leq 1 \Rightarrow m^+ = m^2 \rightarrow m^2 \leq 1 \rightarrow 0 \leq m \leq 1 \rightarrow DA = (-\infty, 1] \quad (4)$$

$$\text{ب) } |m-1| \leq 1 \rightarrow 0 \leq m \leq 2 \rightarrow DA = [0, 2] - \{1\}$$

$$\sqrt{1-|m-1|} - 1 \neq 0 \rightarrow |m-1| \neq 1 \rightarrow m \neq 0, 2$$

$$\text{الف) } \cos x \neq 0 \rightarrow DA = \mathbb{R} - \{k\pi + \frac{\pi}{2}\} \quad (1)$$

$$\text{ب) } \cos x \neq \frac{1}{2} \rightarrow DA = \mathbb{R} - \{k\pi \pm \frac{\pi}{3}\}$$

$$\text{الف) } |2x+1| \neq |x+1| \rightarrow \varepsilon x^2 + \varepsilon x + 1 \neq x^2 + 4x + 4 \rightarrow \varepsilon x^2 - 2x - 1 \neq 0 \rightarrow x \neq \frac{1}{\varepsilon} \text{ and } \frac{2}{\varepsilon} \rightarrow DA = \mathbb{R} - \{1, \frac{2}{\varepsilon}\} \quad (1)$$

$$\text{ب) } \varepsilon x^2 - 2x - 1 \geq 0 \rightarrow \frac{-\varepsilon}{1} \rightarrow DA = (-\infty, \frac{2}{\varepsilon}] \cup [1, +\infty)$$

$$2x-1 > 0 \rightarrow x > \frac{1}{2} \quad (1)$$

$$\log_{\frac{1}{2}} \log_{\frac{1}{2}} x-1 \geq 0 \rightarrow \log_{\frac{1}{2}} x-1 \leq 1 \rightarrow x-1 \leq 0 \rightarrow x \leq 1$$

$$\log_{\frac{1}{2}} x-1 > 0 \rightarrow x-1 > 1 \rightarrow x > 2 \quad (2) \rightarrow DA = (1, 2]$$

$$\text{الف) } \cos x > \frac{1}{2} \rightarrow DA = \mathbb{R} - (2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3}) \quad (10)$$

$$\text{ب) } \frac{x-1}{x+1} > 0$$

$$\log \frac{x-1}{x+1} \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow \frac{2}{x+1} \geq 0 \rightarrow DA = (-\infty, -1)$$