

۲. آخرین

الف) $\sqrt{x+b} \rightarrow x^2+b=0 \Rightarrow b=-x^2$ (1)

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

ج) $\varepsilon - m^2 \geq 0 \rightarrow -2 \leq m \leq 2$ (3)

د) $[m] + [m] \neq -1 \rightarrow m \in \mathbb{Z}$ (4)

الف) $m^2 + 2m \geq 0 \rightarrow m(m+2) \geq 0$ (5)

ب) ± 1 (6)

الف) $|m-1| \geq 2 \rightarrow m \geq 3$ (7)

ب) $|x-2| \leq \varepsilon \rightarrow -\varepsilon \leq x-2 \leq \varepsilon \rightarrow -2 \leq x \leq 4$ (8)

الف) $|m| \leq 1 \Rightarrow m \in [-1, 1]$ (9)

ب) $|m-1| \leq 2 \rightarrow 2 \leq m \leq 3$ (10)

ج) $|m-1| - 1 \neq 0 \rightarrow |m-1| \neq 1 \rightarrow m \neq 0, 2$ (11)

الف) $\cos x \neq 0 \rightarrow DA = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$ (12)

ب) $\cos x \neq \frac{1}{2} \rightarrow DA = \mathbb{R} - \{k\pi \pm \frac{\pi}{3}\}$ (13)

الف) $|2x+1| \neq |x+1| \rightarrow \varepsilon x^2 + \varepsilon x + 1 \neq x^2 + 4x + 1 \rightarrow \varepsilon x^2 - 2x - 1 \neq 0 \rightarrow x \neq \frac{1}{\varepsilon} \text{ and } \frac{-1}{\varepsilon}$ (14)

ب) $\varepsilon x^2 - 2x - 1 \geq 0 \rightarrow \frac{-\varepsilon}{\varepsilon} \leq x \leq \frac{1}{\varepsilon}$ (15)

ج) $2x-1 > 0 \rightarrow x > \frac{1}{2}$ (16)

$\log_2 \log_2 x \geq 0 \rightarrow \log_2 x \geq 1 \rightarrow x \geq 2$ (17)

الف) $\log_2 x > 0 \rightarrow x > 1$ (18)

ب) $\cos x > \frac{1}{2} \rightarrow DA = \mathbb{R} - (2k\pi - \frac{\pi}{3}, 2k\pi + \frac{\pi}{3})$ (19)

ج) $\frac{x-1}{x+1} > 0$ (20)

$\log \frac{x-1}{x+1} \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow \frac{2}{x+1} \geq 0 \rightarrow x \geq -1$ (21)