

نام و نام خانوادگی دانشنامه تشریحی تکلیف شماره کلاس

$$\sqrt{2a+b}$$

$$[a \pm \sqrt{b}]$$

$$(a-x) \leftarrow$$

درجه بی نهایت

[Signature]

$$2ma-b \xrightarrow{2} 4+b=0 \rightarrow \boxed{b=-4}$$

1

$$\Delta \leq 0 \rightarrow 4 - \frac{9}{4}(x-m)^2 \rightarrow 4 - 8 + 4m^2 \rightarrow 4m^2 - 4 \quad \varepsilon(m-1) \leq 0 \rightarrow$$

$$+\frac{-1 \pm \sqrt{1+4}}{2} \quad [1, 2] \checkmark$$

$$1 - (-1) = 2$$

2

$$x-m^2 \geq 0 \rightarrow \frac{-1 \pm \sqrt{1+4}}{2} = [1, 2]$$

$$[-2, -1, 0, 1, 2]$$

3

$$\frac{[x] + [x-1] + 1}{x \in \mathbb{Z} \rightarrow 1 \checkmark}$$

$$x \in \mathbb{Z} \rightarrow 0 \text{ nit}$$

$$\text{الف) } \sqrt{x(x+2)} \rightarrow \sqrt{x} \sqrt{x+2} \quad \frac{-\phi + \phi}{-\phi + \phi} + [-2, +\infty)$$

$$\text{ب) } \frac{(x-1)(x+1) \overset{1}{\cancel{x}} \overset{1}{\cancel{x}} (x-2)}{x^2-1} \quad \overset{1}{\cancel{x}} \overset{1}{\cancel{x}}$$

$$\frac{x}{x^2-1} = \frac{x}{(x-1)(x+1)} = \frac{A}{x-1} + \frac{B}{x+1} \quad (-\infty, -1] \cup [1, +\infty)$$

4

$$\text{الف) } |x-2| - 3 \geq 0 \rightarrow |x-2| \geq 3 \rightarrow x-2 \geq 3 \vee x-2 \leq -3 \rightarrow x \geq 5 \vee x \leq -1$$

$$\text{ب) } 4 - |2-x| \geq 0 \rightarrow |2-x| \leq 4 \quad \begin{cases} 2-x \leq 4 \rightarrow x \geq -2 \\ 2-x \geq -4 \rightarrow x \leq 6 \end{cases}$$

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الف) $x \geq 0 \rightarrow 1 - x^2 \rightarrow 1 - x^2 \geq 0 \rightarrow x^2 \leq 1 \rightarrow x \in [-1, 1] \rightarrow [0, 1]$ ✓ $x \leq 0 \rightarrow 1 + x^2 \rightarrow$ ^{دائمًا} _{موجب} ب) $1 - x-1 \geq 0 \rightarrow x-1 \leq 1 \rightarrow \begin{cases} x-1 \leq 1 \rightarrow x \leq 2 \\ x-1 \geq -1 \rightarrow x \geq 0 \end{cases} \quad [0, 2]$ $1 - x-1 \neq 1 \rightarrow 1 \neq x-1 \rightarrow \begin{cases} x-1 < 1 \\ x-1 > 1 \end{cases} \quad [0, 1] \cup [2, \infty)$	6
الف) $\frac{-\cos x}{\cos x} \rightarrow -1 \rightarrow \cos x = 0 \rightarrow x = \frac{\pi}{2} + k\pi \rightarrow R - \{2k\pi \pm \frac{\pi}{2}\}$ ب) $1 - \cos x = 0 \rightarrow \cos x = 1 \rightarrow x = 2k\pi \rightarrow R - \{2k\pi\}$	7
الف) $1 - \sin x \neq 0 \rightarrow \sin x \neq 1 \rightarrow x \neq \frac{\pi}{2} + 2k\pi \rightarrow R - \{2k\pi + \frac{\pi}{2}\}$ ب) $1 - 2\cos x \geq 0 \rightarrow \cos x \leq \frac{1}{2} \rightarrow x \in [2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3}]$	8
$\log_{\frac{1}{2}} x^{m-1} \geq 0 \rightarrow x^{m-1} \leq 1 \rightarrow x \leq 1$ $\log_{\frac{1}{2}} x^{m-1} \geq 1 \rightarrow x^{m-1} \leq \frac{1}{2} \rightarrow x \leq \sqrt[m-1]{\frac{1}{2}}$ $\left(\frac{1}{2}\right)^{\frac{1}{m-1}} \geq \log_{\frac{1}{2}} x^{m-1} \rightarrow \frac{1}{2} \geq x^{m-1} \rightarrow x \leq \sqrt[m-1]{\frac{1}{2}}$	9
الف) $1 - \cos x + \sin x > 0 \rightarrow \cos x < \sin x \rightarrow x \in (2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{7\pi}{4})$ $R - [2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{7\pi}{4}]$ ب) $\frac{x-1}{x+1} > 0 \rightarrow x > 1$ $\frac{x-1}{x+1} < 0 \rightarrow x < -1$ $\frac{x-1}{x+1} \geq 0 \rightarrow x \geq 1$ $\frac{x-1}{x+1} \leq 0 \rightarrow x \leq -1$ $x < -1$	10