

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس رتبه
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الف) $4x^2 - 8x - 4 = 0 \rightarrow x^2 - 2x - 1 = 0$
 $\rightarrow (x-4)(x+1) = 0 \rightarrow x = \begin{cases} 4 \\ -1 \end{cases}$

ب) $x^2 - 1x - 4 = 0 \rightarrow x^2 - 1x - 4 = 0$
 $\rightarrow (x-4)(x+1) = 0 \rightarrow x = \begin{cases} 4 \\ -1 \end{cases}$

ج) $x^2 - 4x - 12 = 0 \rightarrow x^2 - 4x - 12 = 0$
 $\rightarrow (x-4)(x+3) \rightarrow x = \begin{cases} 4 \\ -3 \end{cases}$

د) $2x^2 - 8x - 12 = 0 \rightarrow x^2 - 4x - 6 = 0$
 $\rightarrow (x-8)(x+3) = 0 \rightarrow x = \begin{cases} 8 \\ -3 \end{cases}$

الف) $x^2 - 2x - 12 = 0 \rightarrow (x-7)(x+2) = 0$
 $\rightarrow x = \begin{cases} 7 \\ -2 \end{cases}$

ب) $2x^2 + 8x + 6 = 0 \rightarrow x^2 + 4x + 3 = 0$
 $\rightarrow (x+2)(x+1) = 0 \rightarrow x = \begin{cases} -2 \\ -1 \end{cases}$

ج) $x^2 + 2x + 5 = 0 \rightarrow \Delta = b^2 - 4ac$
 $\rightarrow \Delta = 4 - 20 \rightarrow \Delta < 0 \rightarrow \text{ریشه ندارد}$

د) $x^2 + 2x - 2 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
 $x = \frac{-2 \pm \sqrt{4 + 8}}{2} \rightarrow x_1 = \frac{-2 + \sqrt{12}}{2}, x_2 = \frac{-2 - \sqrt{12}}{2}$

$A, B = \{(1,2)(1,4)(2,2)(2,4)(4,2)(4,4)\}$
 $B^T = \{(2,2)(2,4)(4,2)(4,4)\}$
 $A, B - B^T = \{(1,2)(1,4)\}$

الف) $m^2 = m+2 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0 \rightarrow m = \begin{cases} 2 \\ -1 \end{cases}$
 $\rightarrow \text{if } m=2 \rightarrow \varepsilon = 1 \times \infty \text{ / if } m=-1 \rightarrow \boxed{m=-1}$

ب) $m^2 = m+2 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0 \rightarrow m = \begin{cases} 2 \\ -1 \end{cases}$
 $\rightarrow \text{if } m=-1 \rightarrow \varepsilon = \infty \times \infty \text{ / if } m=2 \rightarrow 1 = \infty \times \infty \rightarrow \boxed{m=2}$

$a^2 = a+2 \rightarrow a^2 - a - 2 = 0 \rightarrow (a-2)(a+1) = 0 \rightarrow a = \begin{cases} 2 \\ -1 \end{cases}$
 $\text{if } a=1 \rightarrow a+2 = a^2 \rightarrow 3 = 1 \times \infty$
 $\text{if } a=2 \rightarrow a^2 = a+2 \rightarrow 4 = 2+2 \rightarrow \boxed{a=2}$

$$\left. \begin{aligned} n=1 &\rightarrow n^2-1 = a n + b \rightarrow 1-1 = a+b = 0 \\ n=2 &\rightarrow a n + b = n^2 \rightarrow 2a+b = 1 \end{aligned} \right\} \rightarrow \begin{cases} a+b=0 \\ 2a+b=1 \end{cases} \rightarrow \underline{a=1}$$

$$\rightarrow a+b=0 \rightarrow 1+b=0 \rightarrow \underline{b=-1}$$

$$\rightarrow a \times b = 1 \times (-1) = \boxed{-1} \quad (\text{جواب})$$

$$n=K \rightarrow rK - c = \varepsilon - cK \rightarrow \delta K = V \rightarrow \boxed{K = \frac{V}{\delta}} = 1, \varepsilon$$

(جواب)

الف) $y'' - 4y = x^2 - \varepsilon x + c$
 (توجه) $n=1 \rightarrow y'' - 4y = y(y^2 - 4)$
 $\rightarrow y = \{0, \sqrt{2}, -\sqrt{2}\}$

ب) $|n| + |y| = c \rightarrow c - |n| = |y|$
 $\rightarrow n=0 \rightarrow c = |y| \rightarrow y = \pm c$
 $\rightarrow \boxed{\text{جواب نیست}}$

2) $|y| = \sqrt{1 - \cos x} \rightarrow n = \frac{\pi}{2}$
 $\rightarrow |y| = 1 \rightarrow y = \pm 1 \rightarrow \boxed{\text{جواب نیست}}$

1) $y'' + n^2 r n + 1 = 0 \rightarrow y'' + (n+1)^2 = 0$
 $\rightarrow \text{نقطه} (-1, 0) \rightarrow \boxed{\text{جواب نیست}}$

الف) $\sqrt{y} + n^2 = 2n - 2 \rightarrow \sqrt{y} = -n^2 + 2n - 2$

$f(n, y) \in \mathcal{F} \rightarrow \text{if } n = n_1 \rightarrow \sqrt{y_1} = \sqrt{y_2} \rightarrow \boxed{y_1 = y_2} \rightarrow \boxed{\text{جواب نیست}}$

ب) $y'' + y = 2n \rightarrow \text{if } (n_1, y_1) \in \mathcal{F} \rightarrow \text{if } (n_2, y_2) \in \mathcal{F} \rightarrow \boxed{y_1 = y_2} \rightarrow \boxed{\text{جواب نیست}}$
 $\rightarrow y_1'' + y_1 = 2n_1 \rightarrow (y_1 - y_2)(y_1' + y_2' + y_1 y_2) + 2(y_1 - y_2) = (y_1 - y_2)(y_1' + y_2' + y_1 y_2 + 2) = 0$

$\rightarrow \begin{cases} y_1 = y_2 \checkmark \\ y_1' + y_2' + y_1 y_2 = 0 \end{cases} \rightarrow \Delta = y_1' - y_2' - 1 = -\varepsilon y_1' - 1$
 $\rightarrow -\varepsilon y_1' - 1 < 0 \rightarrow \Delta < 0 \rightarrow \boxed{\text{جواب نیست}}$

الف) $n - 2 \sin y = y \sin n \rightarrow n = 0$

$\rightarrow 0 - 2 \sin y = y \sin 0 \rightarrow 0 = 0 \rightarrow \boxed{\text{جواب نیست}}$

ب) $\sqrt{\frac{n}{y}} + \sqrt{\frac{y}{n}} = 2 \rightarrow \frac{n}{y} + \frac{y}{n} = 2 \rightarrow \frac{n}{y} + \frac{y}{n} = 2 \rightarrow \frac{n^2 + y^2}{ny} = 2$
 $\rightarrow \boxed{\text{جواب نیست}}$

$\rightarrow 2ny = n^2 + y^2 \rightarrow n^2 + y^2 - 2ny = (n - y)^2 = 0$
 $\rightarrow n = y \rightarrow \boxed{\text{جواب نیست}}$

$$(10-ب) \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$$

ہیں عبارت تنہا زمانی ہو قرار است کہ $1 = \sqrt{\frac{x}{y}}$ بالحد پس

$$\sqrt{\frac{x}{y}} = 1 \leadsto \frac{x}{y} = 1 \leadsto x = y \text{ و } (x, y \neq 0)$$

