

۱۹,۵ راه حل شش می نامند!

تالیف ۱

پایه دهم A

دانش آموز خواص

الف) $x^2 - 5x - 24 = 0$

$(x - 9)(x + 4) = 0$

$x = 9 \quad x = -4 \Rightarrow x = \frac{9}{1} = \frac{9}{1}, \quad x = -\frac{4}{1} = -\frac{4}{1}$

ب) $x^2 - 11x + 9 = 0 \quad (x + 1)(x - 9) = 0$

$x = 9 \quad x = -1$

$x = \frac{9}{1} = 9, \quad x = -\frac{1}{1} = -1$

ج) $x^2 - 3x - 12 = 0 \quad (x + 2)(x - 6) = 0$

$x = 6 \Rightarrow x = \frac{6}{1} = \frac{6}{1}$

$x = -2 \Rightarrow x = -\frac{2}{1} = -\frac{2}{1}$

د) $x^2 - 5x - 24 = 0$

$(x + 4)(x - 6) = 0$

$x = 6 \Rightarrow x = \frac{6}{1} = 6$

$x = -4 \Rightarrow x = -\frac{4}{1} = -4$

الف) $(x + 2)(x - 7) \Rightarrow x = 7$
 $x = -2$

ب) $x^2 + 13x + 4 = 0 \Rightarrow (x + 2)(x + 4) = 0$

$x = -\frac{4}{1} = -4$

$x = -\frac{2}{1} = -2$

ج) $\Delta = b^2 - 4ac \Rightarrow 4 - 4(3)(1) \Rightarrow 4 - 12 = -8 \quad \Delta < 0$

د) $\Delta = b^2 - 4ac \quad 9 - 4(-2)(3)$

$9 + 24 = 33$

$\Rightarrow \frac{-3 \pm \sqrt{33}}{2} \Rightarrow \frac{-1 \pm \sqrt{33}}{2}$

$$A \times B = \{ (1,2) (1,3) (2,2) (2,3) (3,2) (3,3) \} \quad 13$$

$$B^2 = \{ (2,3) (2,2) (3,2) (3,3) \}$$

$$A \times B - B^2 = \{ (1,2) (1,3) \} \quad 2$$

الف) $m^2 = m + 2 \quad 14$

$$m^2 - m - 2 = 0$$

$$(m-2)(m+1) = 0 \Rightarrow m = 2 \quad \times$$

$$m = -1 \quad \checkmark$$

1, 0

$$(3,1) (2,1) (-3,-1) (-2,-1) (2,1) (-1,2)$$

ب) $m^2 = m + 2$

$$m^2 - m - 2 = 0$$

$$(m-2)(m+1) = 0 \Rightarrow m = 2 \quad \checkmark$$

$$m = -1 \quad \times$$

دقة!

$$a^2 = 3a - 2$$

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$$a^2 - 3a + 2 = 0$$

$$(a-2)(a-1) = 0 \Rightarrow a = 2 \quad \checkmark$$

$$a = 1 \quad \times$$

2

$$n=1 \rightarrow n^2 - 1 = a n + b \quad -1 \mid a+b=0$$

$$0 = a + b \Rightarrow \begin{cases} 2a + b = 1 \\ a = 1 \end{cases} \Rightarrow \boxed{a = 1} \quad 16$$

$$n=2 \rightarrow 1 = 2a + b$$

$$a = 1$$

$$ab = 1 \times -1 = -9f$$

$$a + b = 0$$

$$1 + b = 0$$

$$\boxed{b = -1}$$

2

$$2K - 3 = 6 - 3K$$

$$-V = -2K - 2K$$

$$V = 4K$$

$$\frac{V}{4} = \frac{4K}{4} \Rightarrow K = \frac{V}{4}$$

(7)

$$n = 0 \Rightarrow \text{شالفتی (الف)}$$

$$y^3 - 4y = 3$$

$$y(y^2 - 4) = 3$$

در این توان گفت بین y با توان فرد آخر
علاقت پیدا باشد
تابع نیست

(1)

$$n = 0$$

$$|n| = 3$$

$$y = \pm 3$$

تابع

ج)

~~$$\cos n = -1$$~~

$$y = \pm \sqrt{1 - \cos n}$$

تا جواب پیدا کنیم

$$(n+1)^2 + y^2 = 0$$

$$y = 0$$

$$n+1 = 0$$

$$n = -1$$

هر 2 حالت پس طرف y با n
صفر باشند

2

$$\sqrt[3]{y_1} + y_1^3 = \sqrt[3]{y_2} + y_2^3$$

$$\sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2$$

(9)

$$y_1^3 + y_1^3 = y_2^3 + y_2^3$$

$$y_1^3 = y_2^3 \Rightarrow y_1 = y_2$$

$$\sqrt[3]{y_1^3} = \sqrt[3]{y_2^3} \Rightarrow |y_1| = |y_2| \Rightarrow y_1 = y_2$$

راصل تشریحی کامل بهات نوشتم!

$$\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$$

(الف) $x=0$

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هر صير

من تون با ش

تابع $\times$

$$\sqrt{\frac{x}{y}} = t$$

$$\sqrt{\frac{y}{x}} = \frac{1}{t}$$

$$\left\{ \begin{array}{l} t + \frac{1}{t} = 2 \end{array} \right.$$

$$t^2 + 1 = 2t$$

$$t^2 - 2t + 1 = 0$$

$$(t-1)^2 = 0$$

$$t = 1$$

$$\sqrt{\frac{x}{y}} = 1$$

$$\frac{x}{y} = 1 \Rightarrow x = y \quad \checkmark \text{ تابع}$$

$$x = y \neq 0$$

الان

$$\text{ج-۴) } (m, n^2) \text{ و } (m, n+2) \leadsto m^2 = n+2 \leadsto n^2 - n - 2 = 0.$$

$$n=2 \rightarrow (2, 1), (2, 4) \times$$

$$n=-1 \rightarrow (-1, 4), (-1, 3) \times \quad \text{به ازای هیچ مقدار } n \text{ عبارت تپو نیست!}$$

$$\text{ج-۹) } y''' + 2y = \sin x$$

$$\int y_1''' + 2y_1 = \sin x_1$$

$$x_1 = x_2 \rightarrow$$

$$y_1''' + 2y_1 = y_2''' + 2y_2$$

$$\int y_2''' + 2y_2 = \sin x_2$$

$$y_1''' - y_2''' + 2(y_1 - y_2) = 0 \leadsto (y_1 - y_2) (y_1'' + y_1 y_2' + y_2'' + 2) = 0$$

$$\text{I} \leadsto y_1 - y_2 = 0 \leadsto y_1 = y_2 \quad \text{زیرا اینکال منفی است پس شریف نریز!}$$

$$\text{II} \leadsto y_1'' + y_1 y_2' + y_2'' + 2 = 0 \leadsto y_1 = \frac{-y_2' \pm \sqrt{y_2'^2 - 4(y_2'' + 2)}}{2} \quad \times$$

$$\leadsto y_1 = y_2 \quad \text{تپو نیست!}$$