

الف) $x^2 - 5x - 6 = 0 \rightarrow x^2 - 5x - 6 = 0 \rightarrow (x-6)(x+1) \rightarrow (x-\frac{6}{1})(x+\frac{1}{1}) \rightarrow x = \frac{6}{1} \text{ و } -\frac{1}{1}$

ب) $2x^2 - 11x - 6 = 0 \rightarrow x^2 - 11x - 6 = 0 \rightarrow (x-6)(x+1) \rightarrow (x-\frac{6}{1})(x+\frac{1}{1}) = (x-6)(x+1) \rightarrow x = 6 \text{ و } -1$

ج) $2x^2 - 5x - 3 = 0 \rightarrow x^2 - 5x - 3 = 0 \rightarrow (x-6)(x+2) \rightarrow (x-\frac{6}{1})(x+\frac{2}{1}) \rightarrow x = \frac{6}{1} \text{ و } -\frac{2}{1}$

د) $2x^2 - 5x - 12 = 0 \rightarrow x^2 - 5x - 12 = 0 \rightarrow (x-8)(x+3) \rightarrow (x-\frac{8}{1})(x+\frac{3}{1}) \rightarrow x = \frac{8}{1} \text{ و } -\frac{3}{1}$

الف) $x^2 - 5x - 14 = (x-7)(x+2) \rightarrow x = 7 \text{ و } -2$

ب) $2x^2 + 5x + 3 = 0 \quad a+c=b \rightarrow -1 \text{ و } -3 = x$

ج) $x^2 + 3x + 2 = 0 \quad \Delta = 9 - 4 = 5 \rightarrow$ جواب ندارد

د) $3x^2 + 3x - 2 = 0 \quad \Delta = 9 + 24 = 33 \rightarrow x = \frac{-3 \pm \sqrt{33}}{4}$

$A \times B - B^T = ? \text{ و } B^T = B \times B$

$A+B = \{1,2\} \{1,2\} \{2,2\} \text{ و } \{2,2\} \{1,2\} \{2,2\}$

$B^T = \{2,2\} \{1,2\} \{2,2\} \{2,2\}$

$A+B-B^T = \{1,2\} \text{ و } \{1,2\}$

$m^2 = m + 2 \rightarrow m^2 - m - 2 = 0 \rightarrow m = 2 \text{ و } -1$

~~$m = -1$~~

~~$\{2,4\} \text{ و } \{2,4\}$~~

$m^2 = m + 2 \rightarrow m = 2 \text{ و } -1 \rightarrow m = 2$

~~$m = -1$~~

~~$\{2,4\} \text{ و } \{2,4\}$~~

~~$\{2,4\} \text{ و } \{2,4\}$~~

~~$\{2,4\} \text{ و } \{2,4\}$~~

$a^2 = 3a - 2 \rightarrow a^2 - 3a + 2 = 0 \rightarrow a = 2 \text{ و } 1$

$a = 1 \rightarrow \{1,1\} \{1,1\} \{1,1\} \times$

$a = 2 \rightarrow \{1,4\} \{1,4\} \{2,8\} \checkmark$

$$x=1 \rightarrow 1-1=0=a(1)+b \rightarrow a+b=0$$

$$x=2 \rightarrow 2^2=2a+b \rightarrow 1=2a+b$$

$$a=+1, b=-1$$

$$a+b=-64$$

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$$x=K \rightarrow 2K-3=f-3K$$

با یک عدد معادله به ازای K برابر باشد

$$\rightarrow \Delta K = V \rightarrow K = \frac{V}{\Delta} = K$$

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$$g^2 - 6g = x^2 - 6x + 3 \xrightarrow{x=1} g^2 - 6g = 1 - 6 + 3 = 0 \rightarrow g^2(g-6) = 0 \xrightarrow{g=6} x \text{ نیست}$$

$$b) |x| + |y| = 3 \xrightarrow{x=0} |y| = 3 \rightarrow y = \pm 3 \rightarrow x \text{ تابع نیست}$$

$$2) \sqrt{1-\cos x} = |y| \quad \cos x = \frac{1}{4} \rightarrow |y| = \sqrt{\frac{3}{4}} \rightarrow y = \pm \sqrt{\frac{3}{4}} \quad x \text{ نیست}$$

$$d) y^2 + x^2 + 2x + 1 = 0 \rightarrow y^2 + (x^2 + 2x + 1) = y^2 + (x+1)^2 = 0 \rightarrow \text{فقط برابر صفر} \rightarrow x = -1, y = 0$$

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

$$\begin{cases} \sqrt{y_1} = -(x+1)^2 - 1 \\ \sqrt{y_2} = -(x-1)^2 - 1 \end{cases} \rightarrow \sqrt{y_1} = \sqrt{y_2} \rightarrow y_1 = y_2 \rightarrow \text{آیة} \checkmark$$

$$b) y^2 + 2y = 0 \rightarrow y_1^2 + 2y_1 = 0 \text{ و } y_2^2 + 2y_2 = 0 \rightarrow y_1^2 + 2y_1 = y_2^2 + 2y_2 \rightarrow y_1^2 - y_2^2 + 2y_1 - 2y_2 = 0$$

$$\rightarrow (y_1 - y_2)(y_1 + y_2 + 2) = 0 \rightarrow y_1 - y_2 = 0 \rightarrow y_1 = y_2 \rightarrow \text{تابع است} \checkmark$$

$$الف) x \sin y = y \sin x \rightarrow \text{IF } x=0 \rightarrow \sin x = 0 \rightarrow y = R \quad x \text{ تابع نیست}$$

$$b) \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \xrightarrow{s=\frac{x}{y}} \frac{x}{y} = s \rightarrow \sqrt{s} + \sqrt{\frac{1}{s}} = 2 \rightarrow s + \frac{1}{s} + 2\sqrt{s} = 4 \rightarrow \left(s + \frac{1}{s}\right) = 2$$

$$\rightarrow s=1 \rightarrow \frac{1}{s}=1 \rightarrow \frac{x}{y}=1 \rightarrow x=y \rightarrow \text{نک} \rightarrow \text{تابع است} \checkmark$$