

الف) $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) = 0$
 $\hookrightarrow x = -2 \rightarrow -\frac{2}{5}$
 $\hookrightarrow x = 7 \rightarrow \frac{7}{5}$

ب) $x^2 - 11x - 9 = 0 \rightarrow (x-9)(x+1) = 0$
 $\hookrightarrow x = 9 \rightarrow \frac{9}{11}$
 $\hookrightarrow x = -1 \rightarrow -\frac{1}{11}$

ج) $x^2 - 4x - 12 = 0 \rightarrow (x-6)(x+2) = 0$
 $\hookrightarrow x = 6 \rightarrow \frac{6}{4}$
 $\hookrightarrow x = -2 \rightarrow -\frac{2}{4}$

د) $x^2 - 2x - 24 = 0 \rightarrow (x+3)(x-8) = 0$
 $\hookrightarrow x = 8 \rightarrow \frac{8}{2}$
 $\hookrightarrow x = -3 \rightarrow -\frac{3}{2}$

الف) $x^2 - 2x - 14 = 0 \rightarrow (x-7)(x+2) = 0$
 $\hookrightarrow x = 7$
 $\hookrightarrow x = -2$

ب) $x^2 + 5x + 4 = 0 \rightarrow (x+1)(x+4) = 0$
 $\hookrightarrow x = -1$
 $\hookrightarrow x = -4$

ج) $x^2 + 3x + 2 = 0 \rightarrow (x^2 + 1)^2 - 2 = 0$ تأیید حقیقی

د) $3x^2 + 3x - 2 = 0 \rightarrow x^2 + x - \frac{2}{3} = 0 \rightarrow (x + \frac{1}{3})^2 - \frac{1}{9} - \frac{2}{3} = 0 \rightarrow (x + \frac{1}{3})^2 = \frac{11}{9}$
 $x + \frac{1}{3} = \sqrt{\frac{11}{9}} \rightarrow x = \sqrt{\frac{11}{9}} - \frac{1}{3}$
 $x + \frac{1}{3} = -\sqrt{\frac{11}{9}} \rightarrow x = -\sqrt{\frac{11}{9}} - \frac{1}{3}$

$B^c \Rightarrow \{(2,3), (2,2), (3,2), (3,3)\}$

$A \times B \Rightarrow \{(1,2), (1,3), (2,2), (2,3), (3,2), (3,3)\}$

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

الف) $m+2 = m^2 \rightarrow m = 2$
 $\hookrightarrow m = -1$

ب) $m+2 = m^2 \rightarrow m = 2$
 $\hookrightarrow m = 2$

$3a - 2 = a^2$

$a^2 - 3a + 2 = 0 \rightarrow (a-2)(a-1) = 0$
 $a = 2 \quad a = 1$

$3 \times (1) - 2 \neq 3(1) + 2$

بازرسی بیشتر

$$x^2 - 1 = ax + b$$

$$\left. \begin{array}{l} L \rightarrow (1)^2 - 1 = a(1) + b \rightarrow 0 = a + b \\ r(a) + b = (r)^2 \rightarrow ra + b = 1 \end{array} \right\} \begin{array}{l} a = 1 \\ b = -1 \end{array} \quad a \times b = -1$$

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$$rk - r = t - rk$$

$$ak = r$$

$$k = \frac{r}{a}$$

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$$y^2 - 6y = 0 \quad \text{تایید می‌شود}$$

$$b) |x| + |y| = 3 \xrightarrow{\substack{x=2 \\ \text{مثال نقض}}} 2 + |y| = 3 \quad |y| = 1 \quad y = \pm 1$$

$$c) |y| = \sqrt{1 - \cos x} \rightarrow -1 \leq \cos x \leq 1 \rightarrow \text{تایید می‌شود}$$

$$d) x^2 + (x+1)^2 = 0 \quad \text{تایید می‌شود}$$

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$$\begin{aligned} a) \sqrt[3]{y_1} &= -x^2 + 2x - 2 \rightarrow \sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2 \quad \text{تایید می‌شود} \\ \sqrt[3]{y_2} &= -x^2 + 2x - 2 \end{aligned}$$

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$$b) y^3 + 2y = 2x \quad \text{تایید می‌شود}$$

$$\underline{y_1^3 + 2y_1 = y_2^3 + 2y_2}$$

$$a) x \sin y = y \sin x \rightarrow \frac{\sin y_1}{y_1} = \frac{\sin y_2}{y_2} \rightarrow \text{تایید می‌شود}$$

چون برای هر دو مقدار (sin) جیبین مقدار برابر دارد

$$b) \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \quad \text{تایید می‌شود (مکانی)}$$

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

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