

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره کلاس: پایه:	الف) $4x^2 - 5x - 4 = 0$ $x^2 - 5x - 36 = 0$ $(x-9)(x+4) = 0$ $x = 9$ $x = -4$ ب) $5x^2 - 11x - 2 = 0$ $x^2 - 11x - 9 = 0$ $(x-9)(x+1) = 0$ $x = 9$ $x = -1$ ج) $5x^2 - 5x - 2 = 0$ $x^2 - 5x - 12 = 0$ $(x-8)(x+3) = 0$ $x = 8$ $x = -3$ د) $2x^2 - 5x - 12 = 0$ $x^2 - 5x - 24 = 0$ $(x-8)(x+3) = 0$ $x = 8$ $x = -3$	الف) $x^2 - 5x - 12 = 0$ $(x-8)(x+3) = 0$ $x = 8$ $x = -3$ ب) $2x^2 + 5x + 2 = 0$ $x^2 + 5x + 2 = 0$ $(x+2)(x+1) = 0$ $x = -2$ $x = -1$ ج) $x^2 + 2x + 3 = 0$ $x^2 + 2x + 3 = 0$ $x = -1 \pm \sqrt{1-3}$ $x = -1 \pm \sqrt{-2}$ د) $3x^2 + 4x - 2 = 0$ $x = \frac{-4 \pm \sqrt{16+24}}{6}$ $x = \frac{-4 \pm \sqrt{40}}{6}$	$A = \{1, 2, 3\}$ $B = \{4, 5\}$ $A \times B = B \times A$ $\{(1, 4), (1, 5), (2, 4), (2, 5), (3, 4), (3, 5), (4, 1), (4, 2), (4, 3), (5, 1), (5, 2), (5, 3)\}$ $\{(1, 2), (2, 3), (3, 4), (4, 5)\} = \{(1, 2), (2, 3)\}$	الف) $f(x) = \{(x, m^2), (x, 1), (x, m), (x, m+1), (x, m+2), (x, 1)\}$ $m^2 = m + 2$ $m^2 - m - 2 = 0$ $(m-2)(m+1) = 0$ $m = 2$ $m = -1$ ب) $g(x) = \{(x, m^2), (x, 1), (x, m), (x, m+1), (x, m+2), (x, 1)\}$ $m^2 = m + 2$ $(m-2)(m+1) = 0$ $m = 2$ $m = -1$	$f(x) = \{(1, a^2), (1, a-2), (a^2, a+2)\}$ $a^2 = a - 2$ $a^2 - a + 2 = 0$ $(a-2)(a-1) = 0$ $a = 2$ $a = 1$ $a^2 = a - 2$ $a^2 - a + 2 = 0$ $(a-2)(a-1) = 0$ $a = 2$ $a = 1$
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$$f(x) = \begin{cases} x^2 - 1 & x \leq 1 \\ ax + b & 1 < x \leq 2 \\ x^2 & x > 2 \end{cases} \quad \begin{cases} x=1 \Rightarrow x^2 - 1 = ax + b \\ 0 = a + b \\ a = -b \end{cases}$$

$$x=2 \Rightarrow ax + b = x^2 \quad (a \times b = -4)$$

$$2a + b = 4 \quad \begin{cases} a = 1 \\ b = -4 \end{cases}$$

$$2x - 2 \quad x \geq 17$$

$$x - 2x \quad x \leq 17$$

$$2x - 17 = 17 - 17x$$

$$19x = 34$$

$$x = \frac{34}{19}$$

$$\text{الف) } y^3 - 4y = x^2 - 4x + 3 \Rightarrow x = 1 \quad y^3 - 4y = 0$$

$$y(y^2 - 4) = 0 \quad y = 0 \quad y = \pm 2$$

$$\text{ب) } |x| + |y| = 3 \xrightarrow{\text{مقاله}} x = 0 \quad |y| = 3 \Rightarrow y = \pm 3$$

$$\text{ج) } |y| \sqrt{1 - \cos x} \quad 1 - \cos x > 0 \Rightarrow \cos x < 1$$

$$\Rightarrow y^2 + x^2 + 2x + 1 = 0 \quad y^2 + (x+1)^2 = 0$$

$$\text{الف) } \sqrt[3]{y} + x^2 = 2x - 2 \quad \sqrt[3]{y_1} + x_1^2 = 2x_1 - 2$$

$$\text{ب) } y^3 + 2y = \omega x \quad y_1^3 + 2y_1 = \omega x_1$$

$$x \sin y = y \sin x \Rightarrow x = 0 \quad (x=0) \Rightarrow y = 0$$

یادت نره! $(x, y \neq 0)$

$$\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \quad t = \sqrt{\frac{x}{y}} \quad t + \frac{1}{t} = 2$$

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

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

این عبارت تنها زمانی برقرار است که $1 = \sqrt{\frac{x}{y}}$ باشد پس

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

