

نام و نام خانوادگی: کوشک پورانی پاسخنامه تشریحی تکلیف شماره کلاس: یازدهم دبیرستان B

B

الف) $6x^2 - 5x - 6 = 0 \rightarrow x^2 - 5x - 6 = 0 \rightarrow (x-9)(x+1) \rightarrow \frac{9}{6}, -\frac{1}{6} \rightarrow \frac{3}{2}, -\frac{1}{6}$

ب) $3x^2 - 14x - 3 = 0 \rightarrow x^2 - 14x - 9 = 0 \rightarrow (x-9)(x+1) \rightarrow \frac{9}{3}, -\frac{1}{3} \rightarrow 3, -\frac{1}{3}$

ج) $4x^2 - 12x - 3 = 0 \rightarrow x^2 - 3x - \frac{3}{4} = 0 \rightarrow (x-\frac{5}{2})(x+\frac{1}{2}) \rightarrow \frac{5}{2}, -\frac{1}{2} \rightarrow \frac{5}{2}, -\frac{1}{2}$

د) $2x^2 - 5x - 12 = 0 \rightarrow x^2 - 5x - 6 = 0 \rightarrow (x-9)(x+1) \rightarrow \frac{9}{2}, -\frac{1}{2} \rightarrow \frac{9}{2}, -\frac{1}{2}$

الف) $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) \rightarrow 7, -2 = x_1, x_2$

ب) $2x^2 + 5x + 3 = 0 \rightarrow x^2 + 5x + 6 = 0 \rightarrow (x+2)(x+3) \rightarrow -2, -3 \rightarrow x_1 = -1, x_2 = -\frac{3}{2}$

ج) $x^2 + 2x + 2 = 0 \rightarrow B^2 - 4ac = 4 - 8 = -4 < 0$ (ریشه ندارد)

د) $3x^2 + 4x - 2 = 0 \rightarrow x^2 + \frac{4}{3}x - \frac{2}{3} = 0 \rightarrow \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{-\frac{4}{3} \pm \sqrt{\frac{16}{9} + \frac{8}{3}}}{2} \rightarrow \frac{-4 \pm \sqrt{32}}{6}, \frac{-4 - \sqrt{32}}{6}$

$B^2 - 4ac = 16 - 4 \cdot \frac{4}{3} \cdot (-\frac{2}{3}) = 16 + \frac{32}{9} = \frac{144 + 32}{9} = \frac{176}{9}$

$A \times B - B^2 \rightarrow (1,2)(1,3)(2,2)(2,3)(3,2)(3,3) - (2,2)(2,3)(3,2)(3,3)$

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

$f(n) = \{(1, m^2), (2, 1), (-3, m), (-2, m), (3, m+2), (m, 2)\}$ $m+2 = m^2 \rightarrow m^2 - m - 2 = 0$
 $m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0 \rightarrow m = 2, -1$
 $m = -1$ $(2, 1)(2, 2) \leftarrow$ فقط $2 = m$

$g(n) = \{(3, m^2), (2, 1), (m, 2), (3, m+2), (-2, m), (-1, 3)\}$ $m+2 = m^2 \rightarrow (m-2)(m+1) = 0$
 $m = 2, -1$
 $m = 2$ $(-1, 3)(-1, 2) \leftarrow$ فقط $m = -1$

$f(n) = \{(1, a^2), (1, 3a-2), (a^2, 3a+2)\}$ $1, \frac{a^2}{a} \leftarrow 1 + 2 - 3 = 0$
 $a^2 = 3a - 2 \rightarrow 1a^2 - 3a + 2 = 0$
 $a = 1, 2$

$a = 1 \rightarrow (1, 1)(1, 1)(1, 5)$ فقط $\times$

$a = 2 \rightarrow (1, 4)(1, 4)(4, 8)$ ✓

$a = 2$

$x^2 - 1 \quad x \leq 1 \quad 1 \rightarrow 0$ $ax + b \quad 1 \leq x \leq 2$ $x^3 \quad x > 2 \quad 2 \rightarrow 1$	$ax + b \xrightarrow{x=1} a + b = 0$ $ax + b \xrightarrow{x=2} 2a + b = 1$ $a = 1 \quad b = -1 \quad ab = -1$	6
$2x - 3 \quad x \geq 4 \quad 2x - 3 \xrightarrow{x=4} 2k - 3$ $5 - 3x \quad x \leq k \quad 5 - 3x \xrightarrow{x=k} 5 - 3k$	$2k - 3 = 5 - 3k$ $5k = 8$ $k = \frac{8}{5}$	7
X تابع نیست $x^2 - 6y = x^2 - 3x + 3 \Rightarrow x \rightarrow 1 \quad y^2 - 6y = 0 \quad y(y - 6) \quad y = 0 \pm 6$ X تابع نیست $ x + y = 3 \quad x = 0 \quad y = 3 \quad y = \pm 3$ X تابع نیست $ y = \sqrt{1 - \cos x} \quad x = \frac{\pi}{2} \quad y = 1 \quad y = \pm 1$ $y^2 + x^2 + 2x + 1 = 0 \quad x = -1 \quad y^2 = 0 \quad y = 0 \quad y^2 + (x+1)^2 = 0 \quad \checkmark$		8
$\sqrt[3]{y} + x^2 = 2x - 2 \quad \checkmark \rightarrow \sqrt[3]{y_1} + x_1^2 = 2x_1 - 2 \quad x_1 = x_2 \quad \sqrt[3]{y_1} = \sqrt[3]{y_2} \quad y_1 = y_2$ $\sqrt[3]{y_1} + x_1^2 = 2x_1 - 2 \quad \sqrt[3]{y_2} + x_2^2 = 2x_2 - 2$ $y^3 + 2y = 5x \quad \checkmark \rightarrow y_1^3 + 2y_1 = 5x_1 \quad y_2^3 + 2y_2 = 5x_2 \quad x_1 = x_2 \rightarrow y_1^3 - y_2^3 + 2y_1 - 2y_2 = 0$ $(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) + 2(y_1 - y_2) = 0 \quad (y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + 2) = 0 \quad y_1 = y_2$	$y_1 = y_2$ $y_1 = y_2$	9
$x \sin y = y \sin x \quad x = 0 \quad 0 \times \sin y = y \times \sin 0 \quad 0 = 0$ X تابع نیست $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \quad x \neq 0 \quad y \neq 0 \quad \frac{x}{y} \geq 0 \quad \sqrt{\frac{x}{y}} = a \rightarrow a + \frac{1}{a} = 2 \quad \times a \quad a = 1$ $\checkmark$ تابع است $\sqrt{\frac{x}{y}} = 1 \quad \frac{x}{y} = 1 \quad x = y \quad a^2 + 1 = 2a \quad a^2 - 2a + 1 = (a-1)^2 = 0$	$0 = 0$ $(0, 0) (0, 2) (0, 4)$	10