

$$د) 6x^2 - 8x - 4 = 0 \Rightarrow x^2 - 8x - 4 = 0$$

$$(x-9)(x+1) = 0$$

$$\frac{9}{4} - 1.5 = \frac{6}{4} = \frac{3}{2}$$

$$هـ) 3x^2 - 11x - 9 = 0 \rightarrow x^2 - 11x - 9 = 0$$

$$(x-9)(x+1) = 0$$

$$\frac{9}{4} - 1.5 = \frac{3}{4}$$

$$و) 8x^2 - 8x - 3 = 0 \rightarrow x^2 - 8x - 12 = 0$$

$$(x-4)(x+2) = 0$$

$$\frac{4}{2} - 1.5 = \frac{5}{2} = \frac{5}{2}$$

$$ز) 2x^2 - 2x - 12 = 0 \rightarrow x^2 - x - 6 = 0$$

$$(x-1)(x+3) = 0$$

$$\frac{1}{2} - 1.5 = -1$$

$$ح) x^2 - 2x - 15 = 0 \rightarrow (x-5)(x+3) = 0$$

$$ط) 2x^2 + 8x + 3 = 0 \rightarrow (x+1)(2x+3) = 0$$

$$\frac{2x^2 + 8x + 3}{-2x^2 - 2x} = \frac{1}{2}$$

$$ث) x^2 + 2x + 3 = 0$$

$$\frac{1}{2} \rightarrow x - 1(2) < 0$$

$$ج) 3x^2 + 3x - 2 = 0$$

$$\frac{-3 \pm \sqrt{9 - 4(-2)}}{6} = \frac{-3 \pm \sqrt{17}}{6}$$

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

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

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

$$6) m^r = m + r \rightarrow m^r - m - r = 0 \rightarrow m = -1 \quad (m = -1) \quad -4$$

$m = 2$

$$i) f m = 2 \rightarrow (2, 1) (2, 4) \times \text{تابع نیست}$$

$$8) m^r = m + r \rightarrow m^r - m - r = 0 \rightarrow m = -1 \quad \text{کلاً تابع نیست}$$

$m = 2$

$$9) f m = 2 \rightarrow (2, 1) (2, 4) \times \text{تابع نیست}$$

$$11) m = -1 \rightarrow (-1, 4) (-1, 3) \times \text{تابع نیست}$$

$$12) a^r = 3a - r \rightarrow a^r - 3a + r = 0 \rightarrow a = 1 \quad (a = 2) \quad -4$$

$a = 2$

$$14) f a = 1 \rightarrow (1, 1) (1, 4) \times \text{تابع نیست}$$

$$15) f a = 2 \rightarrow (1, 4) (2, 1) \checkmark \text{تابع است}$$

$$17) f(1) \Rightarrow 1 - 1 = a + b \rightarrow a + b = 0$$

$$18) f(2) \Rightarrow 2a + b = 1$$

$$\begin{cases} a = 1 \\ b = -1 \end{cases} \quad -6$$

$$a \times b = 1 \times (-1) = -1$$

$$f(k) \Rightarrow 2k - 3 = 4 - 3k \rightarrow \Delta k = 1$$

$$k = \frac{1}{2}$$

$$الف) \text{ if } a=1 \rightarrow y^3 - 4y = 0$$

$$y(y^2 - 4) = 0$$

$$y = 0, \pm 2$$

$$ب) \text{ if } a=0 \rightarrow |y| = 3 \rightarrow y = \pm 3$$

$$ج) \text{ if } a = \frac{3k\pi}{2} \rightarrow |y| = \sqrt{k} \rightarrow |y| = 1 \rightarrow y = \pm 1$$

$$د) y^2 + (a+1)^2 = 0 \rightarrow a = -1 \text{ و } y = 0$$

$$(-1, 0)$$

$$\begin{cases} \sqrt{y_1} = -a^2 + 2a - 2 \\ \sqrt{y_2} = -a^2 + 2a - 2 \end{cases} \Rightarrow \sqrt{y_1} = \sqrt{y_2} \Rightarrow y_1 = y_2$$

$$ه) y_1^3 + 2y_1 = y_2^3 + 2y_2 \rightarrow y_1^3 - y_2^3 = 2y_2 - 2y_1$$

$$(y_1 - y_2)(y_1^2 + y_1y_2 + y_2^2) = -2(y_1 - y_2) \rightarrow (y_1 - y_2)(y_1^2 + y_1y_2 + y_2^2) + 2(y_1 - y_2) = 0$$

$$(y_1 - y_2)(y_1^2 + y_1y_2 + y_2^2 + 2) = 0$$

$$y_1 = y_2$$

$$و) \text{ if } a=0 \rightarrow y \in \mathbb{R} \text{ تابع نیست}$$

$$ز) \frac{a}{y} + \frac{y}{a} + 2\sqrt{1} = 4 \rightarrow \frac{a}{y} + \frac{y}{a} = 2 \rightarrow \frac{a}{y} = 1 \rightarrow a = y$$

