

نام و نام خانوادگی: ... شماره دانشجویی: ... کلاس: ...

الف) $4m^2 - 5m - 4 = 0 \Rightarrow m^2 - 5m - 4 = 0 \Rightarrow (m-9)(m+4) = 0 \Rightarrow \begin{cases} m = -4 \\ m = 9 \end{cases}$

ب) $5m^2 - 14m - 9 = 0 \Rightarrow m^2 - 14m - 9 = 0 \Rightarrow (m-1)(m+9) = 0 \Rightarrow \begin{cases} m = 1 \\ m = -9 \end{cases}$

ج) $6m^2 - 13m - 12 = 0 \Rightarrow m^2 - 13m - 12 = 0 \Rightarrow (m-4)(m+3) = 0 \Rightarrow \begin{cases} m = 4 \\ m = -3 \end{cases}$

د) $7m^2 - 12m - 12 = 0 \Rightarrow m^2 - 12m - 12 = 0 \Rightarrow (m-1)(m+12) = 0 \Rightarrow \begin{cases} m = 1 \\ m = -12 \end{cases}$

الف) $m^2 - 5m - 12 = 0 \Rightarrow (m-7)(m+4) = 0 \Rightarrow \begin{cases} m = 7 \\ m = -4 \end{cases}$

ب) $2m^2 + 5m + 3 = 0 \Rightarrow m^2 + 5m + 4 = 0 \Rightarrow (m+3)(m+1) = 0 \Rightarrow \begin{cases} m = -3 \\ m = -1 \end{cases}$

ج) $m^2 + 4m + 3 = 0 \Rightarrow m^2 + 4m + 3 = 0 \Rightarrow (m+3)(m+1) = 0 \Rightarrow \begin{cases} m = -3 \\ m = -1 \end{cases}$

د) $3m^2 + 4m - 12 = 0 \Rightarrow m^2 + \frac{4}{3}m - 4 = 0 \Rightarrow m = \frac{-\frac{4}{3} \pm \sqrt{\frac{16}{9} + 16}}{2} = \frac{-\frac{4}{3} \pm \sqrt{\frac{160}{9}}}{2} = \frac{-\frac{4}{3} \pm \frac{4\sqrt{10}}{3}}{2} = \frac{-2 \pm 2\sqrt{10}}{3}$

الف) $m = \frac{-2 \pm 2\sqrt{10}}{3}$

$A = \{1, 2, 3\} \quad B = \{1, 2, 3\}$

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

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

الف) $f(m) = \{(3, m^2), (2, 1), (-3, m), (3, m+2), (m, 4)\} \Rightarrow m^2 = m+2$

$\Rightarrow m^2 - m - 2 = 0 \Rightarrow (m-2)(m+1) = 0 \Rightarrow \begin{cases} m = 2 \\ m = -1 \end{cases}$

ب) $g(m) = \{(3, m^2), (2, 1), (m, 4), (3, m+2), (-2, m), (-1, 3)\}$

$m^2 = m+2 \Rightarrow m^2 - m - 2 = 0 \Rightarrow (m-2)(m+1) = 0 \Rightarrow \begin{cases} m = 2 \\ m = -1 \end{cases}$

الف) $f(m) = \begin{cases} m^2 - 1 & m \leq 1 \\ am + b & 1 \leq m \leq 2 \\ m^2 & m \geq 2 \end{cases}$

$a \times b = -4/1 \quad f(1) = 1 - 1 = 0 = a + b = 0$

$a = 1 \quad b = -1$

$$f(x) = \{(1, a^p), (1, a^{p-1}), (a, a^p + 1)\}$$

$$a^p = p^u a - p \Rightarrow a^{p-u} a + p = 0 = (a-p)(a-1)$$

$$\begin{cases} u=1 \times (120)(191) \\ a = \boxed{191} \end{cases}$$

$$f(n) = \begin{cases} Vn + W & n \geq k \\ F - Wn & n \leq k \end{cases} \quad n \geq k \Rightarrow \hat{=} n = k \Rightarrow Vn + W = F - Wn \quad \delta n = V \quad n = \frac{V}{\delta}$$

الف) $y''' - 4y = n^4 - 4n + 3$ (تابع نیست) $n=1$ مثال نقص $y''' - 4y = 0 \Rightarrow y(y'' - 4) = 0 \Rightarrow \begin{cases} y = 0 \\ y = +\sqrt{4} \\ y = -\sqrt{4} \end{cases}$

ج) $|x| + |y| = 3$ مثال نصف $n=0 \Rightarrow |y| = 3 \Rightarrow y = \pm 3$

2.) $|y| = \sqrt{1-0.5} \Rightarrow |y| = \sqrt{0.5} = 1 \Rightarrow y = \pm 1$

جمع ۲ عدد را می توان نوشت به صورت $y'' + (n+1)y' = 0$ $\Rightarrow y'' + n y' + y' = 0$

الف) $\sqrt[n]{y} + m^p = p m - p \Rightarrow \sqrt[n]{y} = -m^p + p m - p$

$$\sqrt[n]{y_1} = -n_1^N + n_{m_1} - p$$

مسئله ۹) در یک سیستم بسته
 اگر $m_1 = m_2$ و $v_1 = v_2$ باشد
 پس $v_1 = v_2$ و $v_1 = v_2$

$$y_\mu^p = -m_\nu^N + N m_p - N$$

$$\Rightarrow \sqrt[n]{y_1} = \sqrt[n]{y_p} \Rightarrow y_1 = y_p$$

$$c) \quad y^W + N y \approx \Delta m$$

$$y_1^w + p y_1 = 0 \quad n_1$$

$$\sum_i m_i = m_Y \Rightarrow y_Y^W + y_P^W = y_1^W + y_2^W$$

$$\Rightarrow y_p^w - y_1^w + y_p - y_1 = 0 \Rightarrow (y_p - y_1)(y_p^p + y_1 y_p + y_1^p + 1) = 0$$

$$\Rightarrow y_1 = y_2$$

$y_p = \frac{-y_1 \pm \sqrt{y_1^2 - 4y_2}}{2}$

$y_1 = -y_2$ ~~لأن~~ ~~من~~ ~~مفرد~~ ~~للمعاد~~
 $n \sin y = y \sin n$ $n = \pi$ $\Rightarrow \pi \sin y = y (0) = 0$
~~بالتعويض~~

$$\Rightarrow \sin y = 0 \Rightarrow y = \pi$$

$$c) \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = P$$

اداره دایره کتبه دکن

$$\frac{\sqrt{x}}{\sqrt{y}} + \frac{\sqrt{y}}{\sqrt{x}} = \frac{x+y}{\sqrt{xy}} = r$$

مساوی دو طرف را ضرب می‌کنیم

$$\Rightarrow \frac{x^r + y^r + rxy}{xy} = r$$

$$\Rightarrow x^r + y^r + rxy = rxy$$

$$\Rightarrow x^r + y^r - rxy = 0$$

$$\Rightarrow x - y = 0 \Rightarrow x = y$$

$$\Rightarrow (x - y)^r = 0^5$$

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