

الف) $m^2 - 5m + 4 = 0 \rightarrow (m+4)(m-9) = 0$ $\rightarrow m_1 = -4 = -\frac{4}{1} = -\frac{4}{1}$
 $\rightarrow m_2 = 9 = \frac{9}{1} = \frac{9}{1}$

ب) $m^2 - 8m - 9 = 0 \rightarrow a+c=b \rightarrow -1 \rightarrow -\frac{1}{1}$
 $\rightarrow 9 \rightarrow \frac{9}{1} = 9$

ج) $m^2 - 4m - 12 = 0 \rightarrow (m-6)(m+2) = 0$ $\rightarrow \frac{6}{1} = 6$
 $\rightarrow -\frac{2}{1} = -2$

د) $m^2 - 5m - 24 = 0 \rightarrow (m+3)(m-8) = 0$ $\rightarrow \frac{8}{1} = 8$
 $\rightarrow -\frac{3}{1} = -3$

الف) $\Delta = 25 - 4(-4) = 41 \rightarrow m = \frac{5 \pm \sqrt{41}}{2}$ $\rightarrow \frac{5+9}{2} = 7$
 $\rightarrow \frac{5-9}{2} = -2$

ب) $a+c=b \rightarrow -1 \rightarrow -\frac{1}{1}$
 $\rightarrow -\frac{3}{1} = -3$

ج) $(m+1)(m+2) \rightarrow m_1 = -1, m_2 = -2$

د) $m^2 + 3m - 6 = 0 \rightarrow \Delta = 9 - 4(-6) = 33$ $m = \frac{-3 \pm \sqrt{33}}{2} = \frac{-3 \pm \sqrt{33}}{2}$

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

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

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

الف) $m^2 = m+2 \rightarrow m^2 - m - 2 = 0$ $\rightarrow m = -1 \checkmark$ $m = 2 \checkmark$
 برای $m = 2$ دو برابر اول مشترک داریم در این دوستان مشترک است.

ب) $m^2 = m+2 \rightarrow m^2 - m - 2 = 0$ $\rightarrow m = -1 \times$ $m = 2 \times$
 برای این یک از ضرایب عددی مقابل تابع نیست.

$a^2 = 3a - 2 \rightarrow a^2 - 3a + 2 = 0$ $\rightarrow 1 \times$ $2 \checkmark$

$(1,1)(1,1)(1,5) \times$
 $(1,4)(1,4)(4,1) \checkmark$

$n=1: 1^r - 1 = a(1) + b \rightarrow a + b = 0$ $n=2: a(2) + b = 2^r \rightarrow 2a + b = 1$ $\begin{cases} 2a + b = 1 \\ a + b = 0 \end{cases} \rightarrow a = 1, b = -1 \quad a \times b = 1 \times (-1) = \boxed{-1}$	6
$2k - 3 = 4 - 3k$ $\omega k = V \rightarrow k = \frac{V}{\omega}$	7
الف) $y'' - 2y = 4 - 1 + 3 \rightarrow y'' - 2y + 1 = 0 \quad \Delta = 4 - 4 = 0 \leftarrow n=2$ $y = \frac{4 \pm \sqrt{0}}{2} \quad X$ ب) $n=0 \rightarrow y =3 \rightarrow y = \pm 3 \quad X$ ج) $1 - \cos m \neq 0 \rightarrow 1 \neq \cos m \rightarrow y = \pm \sqrt{1 - \cos m} \quad X$ د) $y' + (n+1)^r = 0 \rightarrow y' = 0 \quad \vee \quad (n+1)^r = 0 \rightarrow n = -1, y = 0 \quad (-1, 0) \checkmark$	8
الف) $\sqrt{y} = 2m - 2 - m^r \rightarrow y = (-m^r + 2m - 2)^2 \checkmark$ ب) $y_1'' + 2y_1 = \omega m$ $y_2'' + 2y_2 = \omega m \rightarrow y_1'' + 2y_1 = y_2'' + 2y_2 \rightarrow y_1'' - y_2'' + 2(y_1 - y_2) = 0$ $(y_1 - y_2)(y_1' + 2y_1 y_2 + y_2') + 2(y_1 - y_2) = 0 \rightarrow (y_1 - y_2)(\underbrace{y_1' + 2y_1 y_2 + y_2' + 2}_{+ \omega m}) = 0$ $y_1 - y_2 = 0 \rightarrow y_1 = y_2 \checkmark$	9
الف) $n=0 \rightarrow \lim y = y \lim 0 \rightarrow 0 = 0 \quad X$ برای n برابر صفر به نهایت نزدیک داریم. ب) $t + \frac{1}{t} = 2 \rightarrow t^2 + 1 = 2t \rightarrow t^2 - 2t + 1 = 0 \rightarrow (t-1)^2 = 0$ $t-1=0 \rightarrow t=1 \rightarrow \sqrt{\frac{m}{y}} = 1 \quad \frac{m}{y} = 1 \rightarrow m=y \checkmark$	10