

北京航空航天大学

BEIJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS

阶段3:

$$f_3(x_3) = 40 \max \{m_3\}, \quad m_3 = 0, 1, 2, 3$$

x_3	$40m_3$				最优解	
	$m_3=0$	$m_3=1$	$m_3=2$	$m_3=3$	$f_3(x_3)$	m_3^*
0	0				0	0
1	0				0	0
2	0	40			40	1
3	0	40	80		40	1
4	0	40	80		80	2
5	0	40	80		80	2
6	0	40	80	120	120	3

阶段2:

$$f_2(x_2) = \max \{20m_2 + f_3(x_2 - m_2)\}, \quad m_2 = 0, 1, 2, 3, 4, 5, 6$$

x_2	$20m_2 + f_3(x_2 - m_2)$							最优解	
	$m_2=0$	$m_2=1$	$m_2=2$	$m_2=3$	$m_2=4$	$m_2=5$	$m_2=6$	$f_2(x_2)$	m_2^*
0	$0+0=0$							0	0
1	$0+0=0$	$20+0=20$						20	1
2	$0+40=40$	$20+0=20$	$40+0=40$					40	0/2
3	$0+40=40$	$20+40=60$	$40+0=40$	$60+0=60$				60	1/3
4	$0+80=80$	$20+40=60$	$40+40=80$	$60+0=60$	$80+0=80$			80	0/2/4
5	$0+80=80$	$20+80=100$	$40+40=80$	$60+40=100$	$80+0=80$	$100+0=100$		100	1/3/5
6	$0+120=120$	$20+80=100$	$40+80=120$	$60+40=100$	$80+40=120$	$100+0=100$	$120+0=120$	120	0/2/4/6

阶段1

$$f_1(x_1) = \max \{ 70m_1 + f_2(x_1 - 4m_1) \} \quad m_1 = 0, 1$$

x_1	$70m_1 + f_2(x_1 - 4m_1)$		最优解	
	$m_1 = 0$	$m_1 = 1$	$f_1(x_1)$	m_1^*
0	$0+0=0$		0	0
1	$0+20=20$		20	0
2	$0+40=40$		40	0
3	$0+60=60$		60	0
4	$0+80=80$	$70+0=70$	80	0
5	$0+100=100$	$70+20=90$	100	0
6	$0+120=120$	$70+40=110$	120	0

最优解: $\begin{cases} m_1^* = 0 \\ m_2^* = 0 \\ m_3^* = 3 \end{cases}$ 或 $\begin{cases} m_1^* = 0 \\ m_2^* = 2 \\ m_3^* = 2 \end{cases}$ 或 $\begin{cases} m_1^* = 0 \\ m_2^* = 4 \\ m_3^* = 1 \end{cases}$ 或 $\begin{cases} m_1^* = 0 \\ m_2^* = 6 \\ m_3^* = 0 \end{cases}$