

$$\begin{aligned}
 1 \quad z &= 6x_1 + 8x_2 + 7x_3 \\
 2x_1 + 4x_2 + 6x_3 &\leq 12 \\
 6x_1 + 7x_2 + 4x_3 &\leq 12 \\
 8x_3 &\leq 16 \\
 x_1, x_2, x_3 &\geq 0
 \end{aligned}$$

$$\begin{aligned}
 6x_1 - 8x_2 - 7x_3 - 0S_1 - 0S_2 - 0S_3 &= 0 \\
 2x_1 + 4x_2 + 6x_3 + 0S_1 + 0S_2 + 0S_3 &\leq 12 \\
 6x_1 + 7x_2 + 4x_3 + 0S_1 + 0S_2 + 0S_3 &\leq 12 \\
 8x_3 + 0S_1 + 0S_2 + 0S_3 &\leq 16
 \end{aligned}$$

	x1	x2	x3	S1	S2	S3	NK	index
Z	-6	-8	-7	0	0	0	0	-
S1	2	4	6	1	0	0	12	3
S2	6	7	4	0	1	0	32	32/7
S3	0	0	8	0	0	1	16	-

	x1	x2	x3	S1	S2	S3	NK	index
Z	-2	0	5	2	0	0	0	-
X2	1/2	1	3/2	1/4	0	0	3	6
S2	5/2	0	-13/2	-7/4	1	0	11	22/5
S3	0	0	8	0	0	1	16	-

	x1	x2	x3	S1	S2	S3	NK	index
Z	0	0	-1/5	3/5	4/5	0	0	-
X2	0	1	14/5	3/5	-1/5	0	4/5	2/7
X1	1	0	-13/5	-7/10	2/5	0	22/5	-22/13
S3	0	0	8	0	0	1	16	-

	x1	x2	x3	S1	S2	S3	NK
Z	0	1/14	0	9/14	11/14	0	0
X3	0	5/14	1	3/14	-1/14	0	2/7
X1	1	13/14	0	-1/7	3/14	0	36/7
S3	0	-20/7	0	-12/7	4/7	1	96/7

$$x_1 = 36/7$$

$$x_2 = 0$$

$$x_3 = 2/7$$

$$\begin{aligned}
 z &= 6x_1 + 8x_2 + 7x_3 \\
 &= 6 \cdot 36/7 + 8 \cdot 0 + 7 \cdot 2/7 \\
 &= 230/7
 \end{aligned}$$

$$x_1 = \text{gelondong}$$

$$x_2 = \text{meubel}$$

$$x_3 = \text{triplek}$$

$$\begin{aligned}
 2 \quad z &= 5x_1 + 15x_2 + 30x_3 \\
 20x_1 + 50x_2 + 80x_3 &\leq 4000 \\
 x_1 &\geq 1/2 (x_1 + x_2 + x_3) \\
 x_3 &\leq 1/5 (x_1 + x_2 + x_3)
 \end{aligned}$$

$$\begin{aligned}
 x_1 &= \text{sederhana} \\
 x_2 &= \text{menengah} \\
 x_3 &= \text{mewah}
 \end{aligned}$$

$$x_1, x_2, x_3 \geq 0$$

$$20x_1 \leq 50\% \cdot 4000$$

$$x_1 \leq 100$$

$$80x_3 \leq 20\% \cdot 4000$$

$$x_3 \leq 10$$

$$50x_2 = 4000 - (50\% \cdot 4000) - (20\% \cdot 4000)$$

$$x_2 = 24$$

$$z = 5x_1 + 15x_2 + 30x_3$$

$$= 5 \cdot 100 + 15 \cdot 24 + 30 \cdot 10$$

$$= 1160$$