

$$\max 1.5x_1 + 2.5x_2 + 1.5x_3 + 2.5x_4 + 1.5x_5$$

$$\text{s.t. } 15 \leq x_1 \leq 40 \quad 10 \leq x_2 \leq 30 \\ 5 \leq x_3 \leq 15 \quad 10 \leq x_4 \leq 30 \quad 5 \leq x_5 \leq 15$$

$$2x_1 + x_2 + \frac{1}{2}x_3 + x_4 + \frac{1}{2}x_5 \leq 100 \quad // \text{ little lower}$$

$$x_4 + \frac{1}{2}x_5 \leq 40 \quad // \text{ more}$$

$$x_2 + \frac{1}{2}x_3 \leq 40 \quad // \text{ more}$$

$$2 \leq y_1 + y_2 + y_3 + y_4 + y_5 \leq 4$$

$$y_i \in \{0, 1\} \quad \forall i = 1 \dots 5$$

$$x_i \leq M y_i$$

$$x_2 + x_3 - x_4$$

$$x_2 + x_3 - (x_4 + x_5) \leq 7$$

$$(x_4 + x_5) - (x_2 + x_3) \leq 7$$

$$x_i \in \mathbb{Z}_+$$

Per i valori spuri:

$$x_2 + \frac{1}{2}x_3 \leq 40 \quad // \text{ more}$$

$$2 \leq y_1 + y_2 + y_3 + y_4 + y_5 \leq 4$$

$$y_i \in \{0, 1\} \quad \forall i = 1 \dots 5$$

$$x_i \leq M y_i$$

// M constant
4844.012

$$x_2 + x_3 - (x_4 + x_5) \leq 7$$

$$(x_4 + x_5) - (x_2 + x_3) \leq 7$$

$$x_i \in \mathbb{Z}_+$$

// valori spuri $x_i = 0$ con $y_i = 1$!

$$x_i \geq y_i$$

$y_1 = 1$	$y_3 = 1$
$x_1 = 0$	$x_3 = \square$