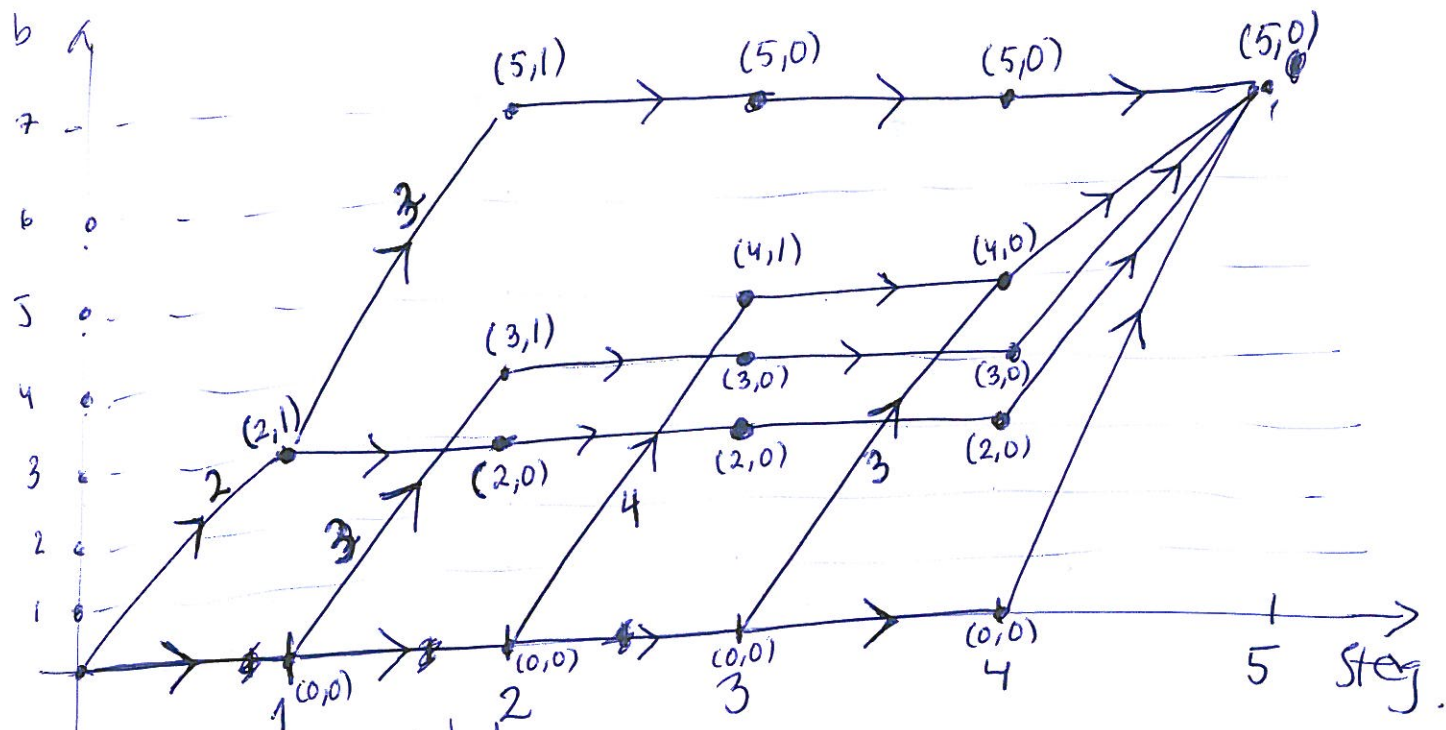


L.111

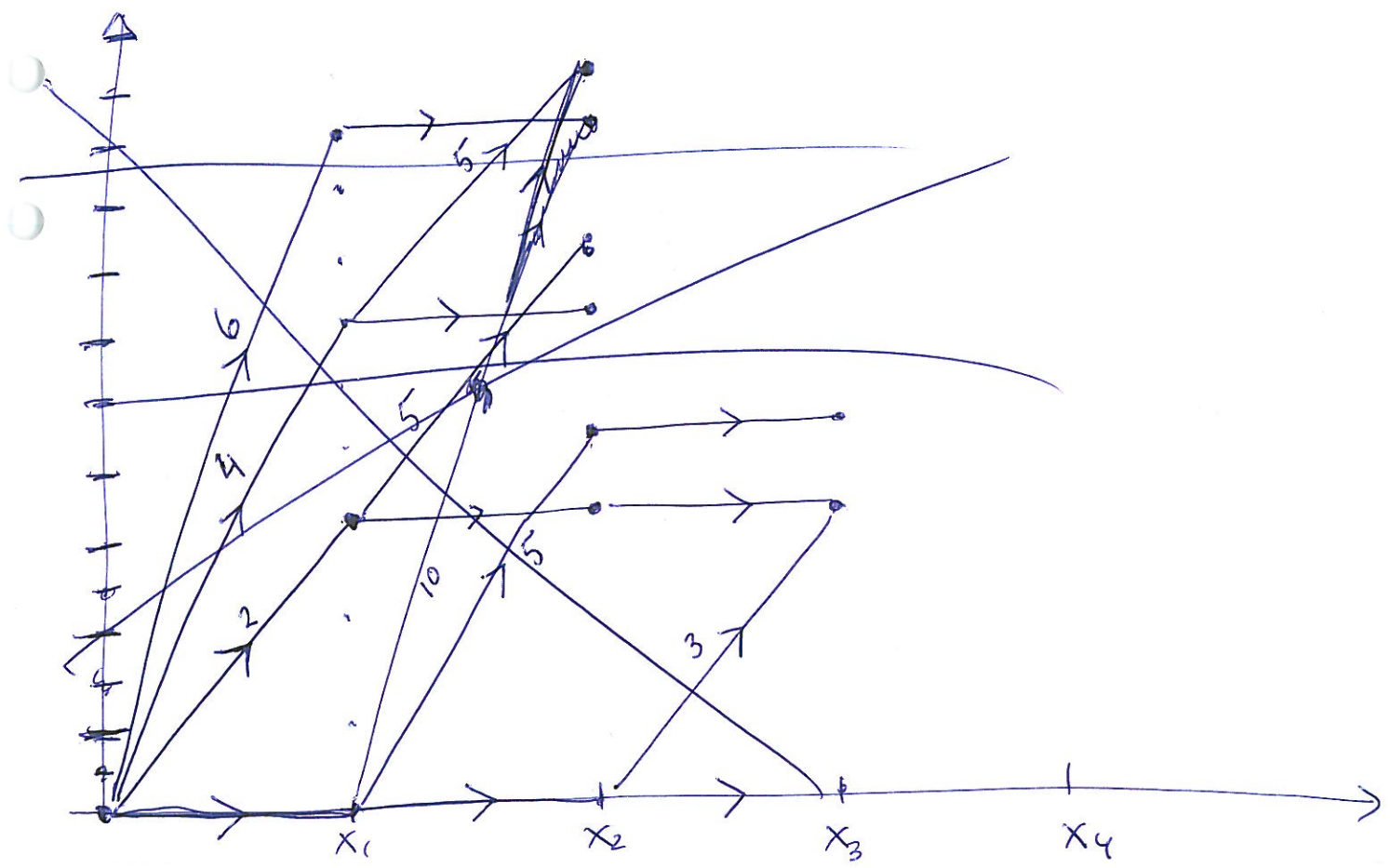
13.7. | b)

$$\begin{cases} \max 2x_1 + 3x_2 + 4x_3 + 3x_4 \\ \text{s.t. } 3x_1 + 4x_2 + 5x_3 + 5x_4 \leq 7 \\ x_1, x_2, x_3, x_4 \in \{0, 1\} \end{cases}$$

Intör x_5 - slackvariabel.



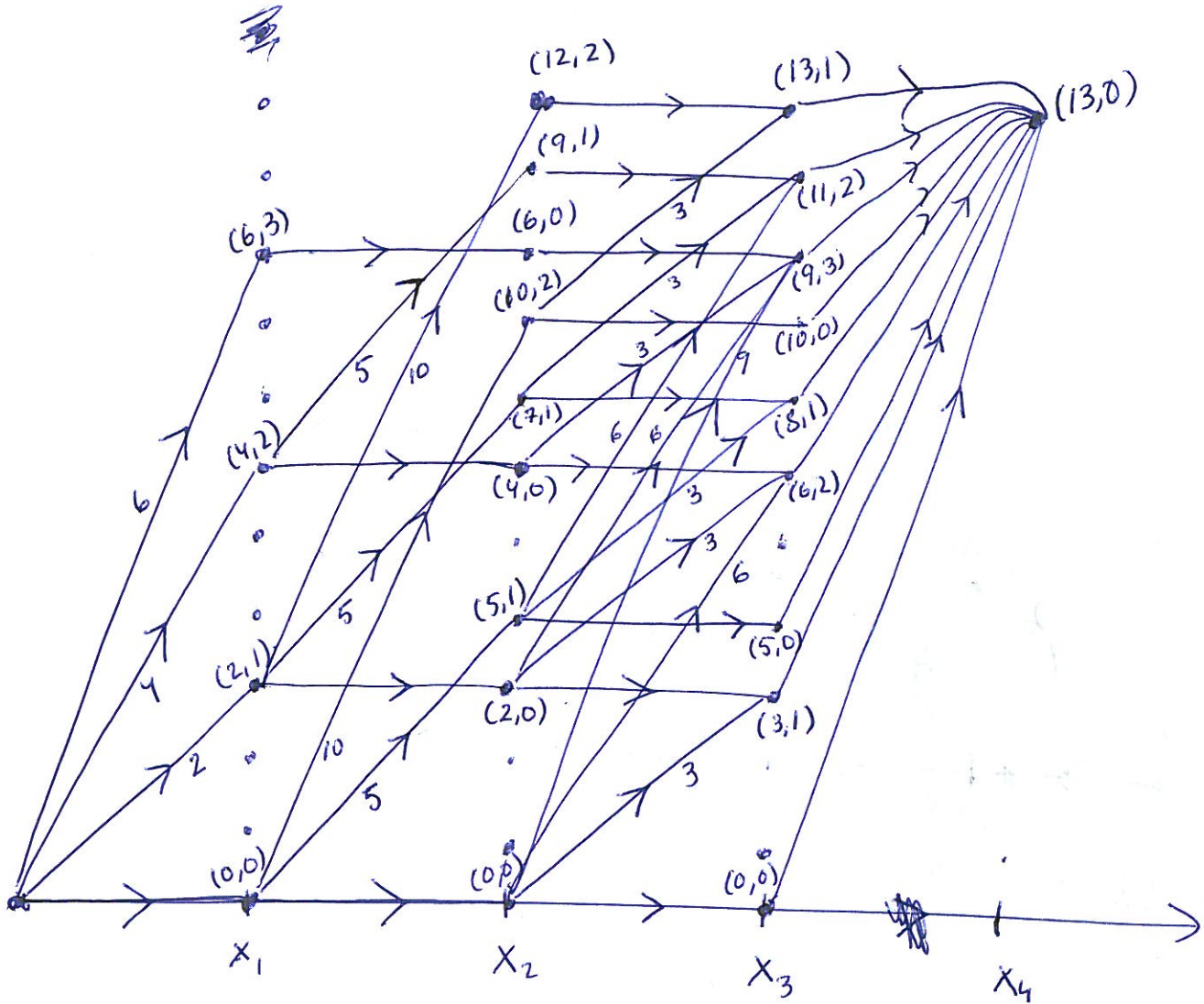
13.9b | x_4 slackvariabel.



13.9b | $\max 2x_1 + 5x_2 + 3x_3$

subj. to $3x_1 + 4x_2 + 3x_3 \leq 11$.

Introduce slackvariable x_4 .



Max. 13.

$x_1 = 0$

$x_2 = 2$

$x_3 = 1$

$x_4 = 0$

It would have been possible to from the problem formulation notice that it is always better to use item 3 instead of item 1, and therefore x_1 has to be 0. By noticing this from the beginning we would have got a smaller problem to solve.