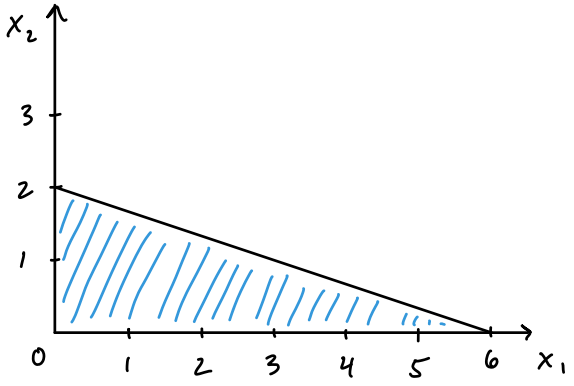
Oppgave 1:

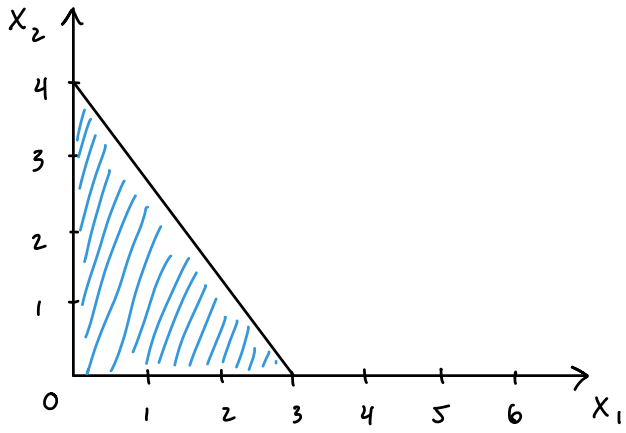
3.1-2

De skraverte områdene viser de ikke-negative løsningene som oppfyller begrensningene.

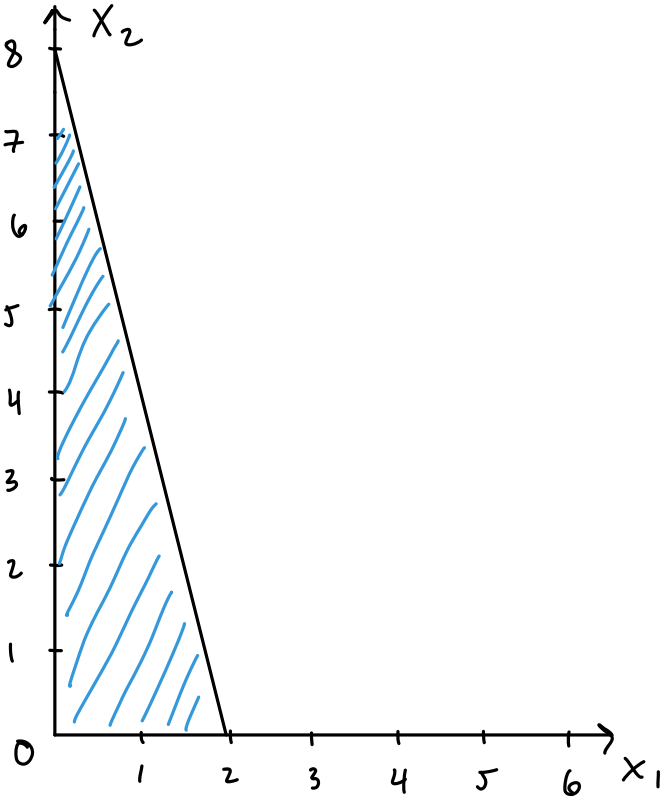
a) $x_1 + 3x_2 \leq 6$



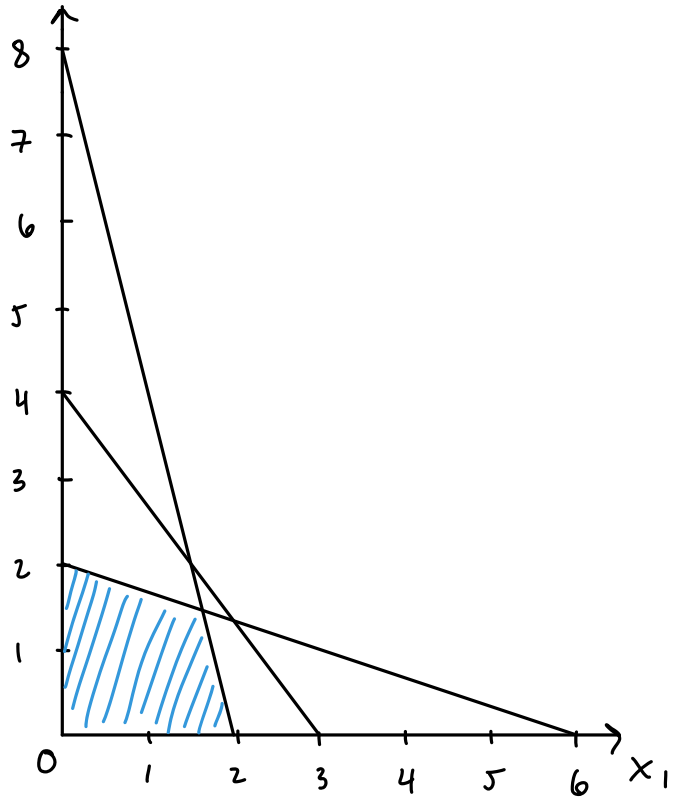
b) $4x_1 + 3x_2 \leq 12$



c) $4x_1 + x_2 \leq 8$

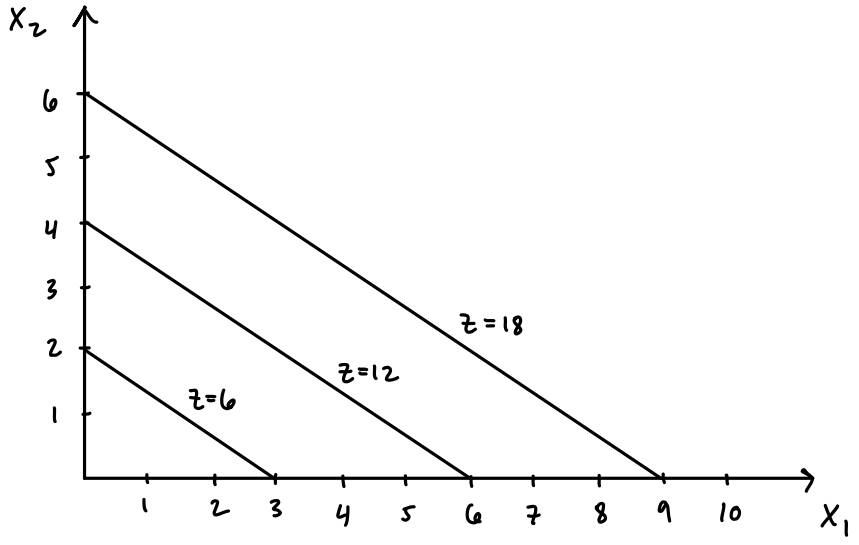


d) Alle restriksjoner.



3.1-3 $\quad z = 2x_1 + 3x_2$

a) Objective function lines for $z = 6$, $z = 12$, $z = 18$:



b) Slope-intercept form of equations:

$z = 6$: $\quad x_2 = -\frac{2}{3}x_1 + 2$

$z = 12$: $\quad x_2 = -\frac{2}{3}x_1 + 4$

$z = 18$: $\quad x_2 = -\frac{2}{3}x_1 + 6$

The three lines have the same slope, but intercept the x_2-axis in different places. The larger z is, the greater x_2 is at the intercept.