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Exercise 6.1

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6.1 a  $\min 3\pi_1 + 2\pi_2$

s.t  $3\pi_1 + \pi_2 \geq 0 \quad (1)$

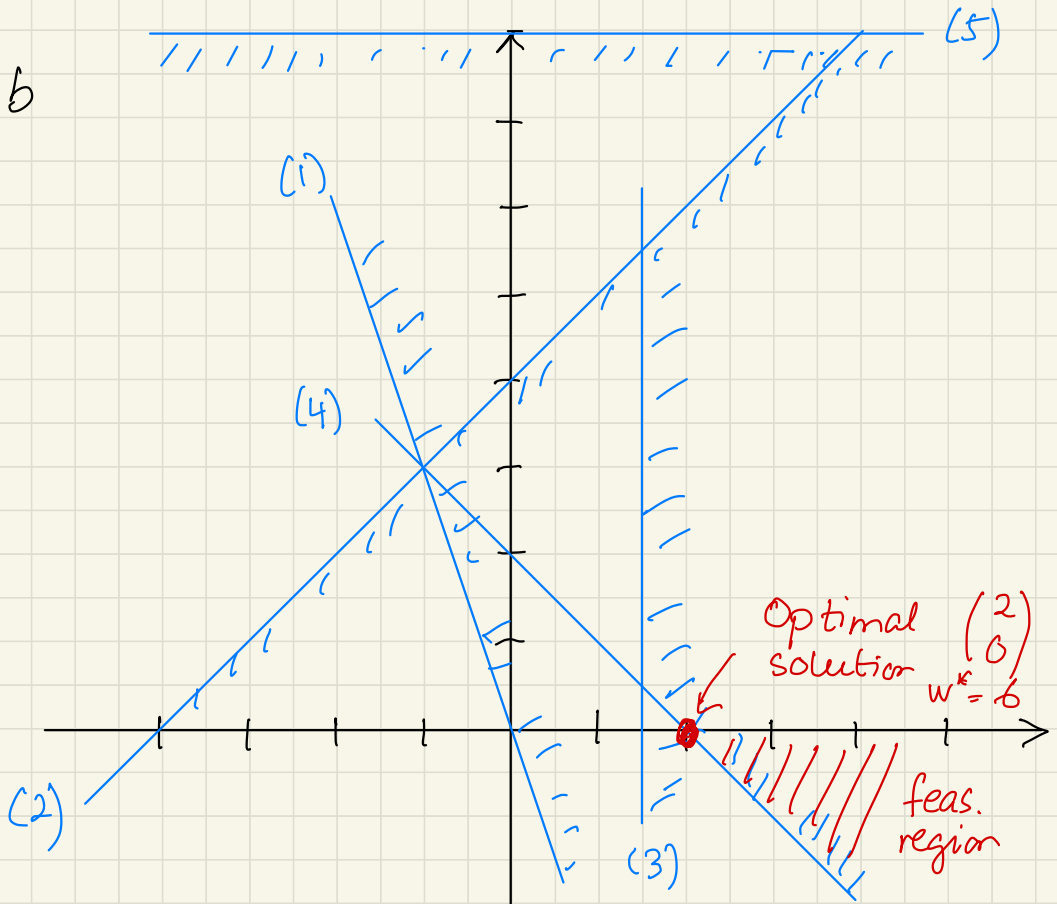
$\pi_1 - \pi_2 \geq -4 \quad (2)$

$2\pi_1 \geq 3 \quad (3)$

$\pi_1 + \pi_2 \geq 2 \quad (4)$

$-\pi_2 \geq -8 \quad (5)$

$\pi_1 \in \mathbb{R}, \pi_2 \leq 0$



(c) All dual constraints, except (4)  
are non-binding  $\Rightarrow$

$$x_1^* = x_2^* = x_3^* = x_5^* = 0$$

$$\Rightarrow x_4^* = 3, \quad z^* = 6$$