

Exercise 12 - Perturbation of the feasible set

- a. **(2 Points)** Exercise 5.1d)

Exercise 13 - Barrier method

This exercise shows to construct an unconstrained problem from a constrained problem. This will be the idea of the interior point method/barrier method, which we will discuss next.

- a. **(2 Points)** Exercise 5.15.

Exercise 14 - A problem where strong duality fails

- a. **(3 Points)** Exercise 5.21a)-c).

Exercise 15 - The weak min-max inequality

In order to appreciate the result of strong duality even more it is instructive to derive the weak min-max inequality.

- a. **(2 Points)** Exercise 5.24.

Exercise 16 - Geometric Interpretation of KKT conditions

- a. **(3 Points)** Exercise 5.31.