

Reading assignment : Text chapter 1.

Text #1.2 (hint: use induction), #1.3, #1.4, #1.10, #1.12, #1.13, #1.17, #1.19, #1.20

10. Let $a \in R^n, b \in R$. Consider the set $S = \{x \in R^n: a'x = b\}$. Given a point $y \in R^n$, how can we compute the Euclidean distance between y and the point in S which is closest to y , i.e. $\min\{\|y - z\|: z \in S\}$?

11. Suppose f is a convex function from R^n into R . Show that the level set of f is convex.