

Exercises

3.124 [07K] Prerequisites: [07C], [07D], [07F]. (Proposed on 2022-10-13)

Let $A \subseteq X$ be a non-empty set; let I the smallest interval that contains A ; this is defined as the intersection of all intervals that contain A (and the intersection is an interval, by [07F]). Let M_A be the family of majorants of A , M_I of I ; show that $M_A = M_I$. In particular A is bounded from above if and only if I is bounded from above; if moreover A has supremum, then $\sup A = \sup I$. (Similarly for the minorants and infimum).

Solution 1. [07M]