

Exercises

E9.48 [OQ7] Prerequisites: Section [2BK]. Let (M, d) be a metric space and suppose that there exists $D \subseteq M$ that is countable and dense. Such (M, d) is called *separable*. Show that (M, d) satisfies the second axiom of countability.

The converse is true in any topological space, see [OMH].