

Exercises

E9.130 [OW3] Topics: perfect set. Prerequisites: [OQP], [2F2].

Suppose (X, d) is a complete metric space. A closed set without isolated points, *i.e.* consisting only of accumulation points, is called a **perfect set**. Show that a non-empty perfect set E contained in X must be uncountably infinite. (*Find a simple direct proof, using Baire's Theorem [0VV].*)

Solution 1. [2DZ]