

## Exercises

E9.26 [OPQ] Topics: closure. Prerequisites: [OP6], [OPN].

Given a metric space  $X$  and a set  $A \subseteq X$ , show that

$$\overline{A} = \overline{(\overline{A})}$$

either by transitioning to the complement set and using [OPJ], or by using the definition of  $\overline{A}$  as "*set of adherent points*".

As discussed in [OPM], this is equivalent to saying that  $\overline{A}$  is a closed set.