

Exercises

E9.57 [OR3] Let (X, d) be a metric space and \sim an equivalence relation on X . Let $Y = X / \sim$ be the quotient space. We define the function $\delta : Y^2 \rightarrow \mathbb{R}$ as

$$\delta(x, y) = \inf\{d(s, t) : s \in x, t \in y\} . \quad (9.57)$$

Is it a distance on Y ? Which properties does it enjoy among those indicated in [OMS]?

Solution 1. [OR4]