Definition 3.165. *[23M]Let A be a set and $\sim$ an equivalence relation. We denote by*

$$A/_{\sim}$$

*the quotient space, that is, the set of all equivalence classes; the **canonical projection** is the map $\pi : A \to A/_{\sim}$ that associates each $x \in A$ with the class $[x] \in A/\sim$.*