Another example

- $A = \mathbb{R}$ and $x \sim y \iff x^2 = y^2$.
- Then $[0] = \{0\}$.
- For any $r \in \mathbb{R}$, $r \neq 0$,
$$[r] = \{r, -r\}.$$
- We can write
$$A/\sim = \{0\} \cup \bigcup_{r>0} \{r, -r\}.$$