Eine Woche, ein Beispiel

6.27 adèles and idèles

I would recommend this paper: https://people.math.umass.edu/~weston/oldpapers/idele.pdf.
After reading it, you may learn:
- The definition of two topology space adèles and idèles
- Basic properties of them (subspaces, canonical map...)
- Use this to prove the finiteness of the ideal class group and the generalized Dirichlet unit theorem

{discrete subtopology
compact quotient

Slogen: A good ambient space can make researched objects into "full lattice"!

objects	ambient space
$\mathcal{O}_K$	$\mathbb{R}^{r_1} \times \mathbb{C}^{r_2}$
$\mathcal{O}_K^\times / U_K$	$H \subseteq \mathbb{R}^{r_1+r_2}$
K	$\mathbb{A}_K$
$K^\times$	$J_K^\circ \subseteq J_K$

K: number field

$\mathbb{A}_K, J_K^\circ$ are not linear space