

TUTORIAL 4 – ALGEBRA 2019

Feel free to use whatever resources you have at your disposal.

- (1) Consolidate the topics you did not get to do during previous tutorials.
- (2) Construct the complex numbers from the real numbers as a quotient of a polynomial ring by an ideal and prove that they form a field.
- (3) Construct the field $\mathbb{Q}[\sqrt{2}]$ from scratch and prove the non-trivial field axiom.