

## 0.1 Abstract algebra

Abstract algebra allows us to discuss properties of types of mathematical structures.

Rather than construct a specific object, and explore its properties, we can explore the properties of an abstract structure with certain definitions. We can then apply findings from this to an any structure which meets the definition.

### 0.1.1 Examples of abstract algebra

We explore:

- Groups
- Rings
- Fields
- Vector spaces
- Inner product spaces