Source:

1 | Definitions

1.1 | DONE group

A set and binary operation that satisfies Group Properties

- Closed
- Identity
- Inverse
- Associative

1.2 | DONE field

A set and two binary operations: the primary (addition) and secondary (multiplication) that ”mostly” satisfies group properties for both operations, and are **commutative and distributive**. It must be a group under the primary operation and a group under the secondary operation except without a secondary inverse for the primary indentity.

1.3 | TODO non-singular matrices

singular matrix: has no inverse.

2 | Connections

2.1 | TODO connect direct sum and linear independence

2.2 | TODO matrices to represent complex numbers

3 | Computation

3.1 | TODO Find the determinant of matrices

3.2 | TODO Find equations of lines and planes using cross product and dot product

4 | Derivations

4.1 | TODO properties of the determinant

4.2 | TODO inverse of a 2x2 matrix