

Algebra (Math 320) Topics List ¹

1. Definition and examples of groups
2. Basic properties of groups
- 2.5. Direct products
3. Subgroups
4. Homomorphisms and Isomorphisms
5. Symmetric and alternating groups
6. Congruence and Lagrange's theorem
7. Normal subgroups
8. Quotient groups
9. Quotient groups and homomorphisms
10. Isomorphism theorems
11. At least two topics from Optional Topics

Math 320 Optional Topics List

1. Finite abelian groups
3. Sylow theorems
4. Rings, subrings, ideals, homomorphisms, quotient rings, isomorphism theorems
5. Fields and field extensions
6. Ancient Greek problems of trisecting an angle, doubling a cube, squaring a circle
7. Very basic Galois theory

¹This list was approved by the department on 10/25/22.