Name: _____

Read Section 13.1, focusing on the classification of finite abelian groups.

Reading Questions

- 1. Make sure you know the definitions of a set of generators of a group, a finitely generated group, and a p-group, and the statement of the Fundamental Theorem of Finite Abelian Groups.
- 2. Give examples of three non-isomorphic 3-groups.

3. (a) Classify all abelian groups of order 25, up to isomorphism.

(b) Classify all abelian groups of order 50, up to isomorphism.

(c) Classify all abelian groups of order 100, up to isomorphism.

- 4. True or false, with reasons.
 - (a) Every finitely generated group is finite.

(b) Every group of order 19 is isomorphic to \mathbb{Z}_{19} .

(c) Every group of order 8 is isomorphic to one of the following: $\mathbb{Z}_2 \times \mathbb{Z}_2 \times \mathbb{Z}_2$, $\mathbb{Z}_2 \times \mathbb{Z}_4$, or \mathbb{Z}_8 .

5. What struck you in this reading? What is still unclear? What remaining questions do you have?