

1. MATH 30A, FALL 2009  
QUIZ 1 PRACTICE

1.1. **Practice for quiz 1.** Rules: Closed book. 15 minutes. You may bring notes written on a single piece of paper. You need to decide what should be written on your paper.

Don't hand in a blank sheet of paper. Use an alias if you like.

1.1.1. List all the subgroups of  $\mathbb{Z}_6$ . How many are there?

1.1.2. Give an example of two groups which are not isomorphic and explain why they cannot be isomorphic.

1.1.3. Prove that  $(\mathbb{Q}, +)$  is not a cyclic group.