S16 MA 274: Group Project 1.

You will work in teams of 2 or 3 to solve this project, which is based on Section 1.3.2 of the course notes. Each person in the group must turn in (on Wednesday **February 10**) the following **typed** in LaTeX. The proofs must be found through group discussion, but the write-ups should be done independently.

(1) Statements and proofs of the theorems below.
(2) A paragraph naming each person in the team, and summarizing the process by which the team came to find the proofs. You should address such questions as: How difficult was it to figure out what to prove? Did the team talk through everything together or did they work independently and then compare solutions? Did one person (who?) take the lead or provide all the ideas? Did you feel comfortable questioning your teammates solutions? why or why not? What did you contribute to the process?

The project:

Section 1.3.2 introduces the idea of a "group". Spend time discussing the axioms for a group. For each of (G1), (G2), (G3), and (G4), can you find examples of sets G and operations $\circ$ which satisfy all of the axioms except for that one? After you have spent time discussing the axioms and thinking about the examples in 1.3.5, come up with proofs of Theorems 1.3.7 and 1.3.8. Each of your proofs should be modelled on the "Uniqueness Theorem Proof Structure" in the text (just before the statement of the theorems) and should use only the axioms of a group.

Here are the teams. Feel free to come up with a name for your team:

Keith Barnatchez, John Baron, Jason Beland	Benard Kibet, Makoto Kinoshita, Hanjing Shi
Hannah Bossi, Robert Campbell, Carl-Philip Majgaard	Pearson Treanor, Xuning Wang, Zhuofan Zhang
Tomotaka Cho, Eric Hartman, Stacey Hou	Katherine Zafirson, Luc Marrie, Abigail Johnson
Grace Farnkoff, Avery Heilbron, Zitong Wang	Sarah Whitney, Joshua Young
Mirco Dinelli, Katie Discipio, Chowdhury Farabee	