

# MATH 110A—WRITING ASSIGNMENT 03

Due: Sunday February 17, by 7PM

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## Getting Started

1. Get the template for this assignment. Here's how to do it:

- Go to <https://v2.overleaf.com/>, and **make sure you are logged in.**
- In a new window, go here:

<https://www.overleaf.com/read/rtnrksftrpgg>

- Click on the menu icon in the upper-left and select “Copy Project”
- When ask for a name, choose something like “Math 110A - WA 03” and click “Copy”
- When this completes you will be back in your own workspace (instead of mine).
- After solving the problem(s), type them up using the template.
- Email me your final draft.

2. Let me know if you have any questions!

If you have trouble finding the command for a math symbol you want to use, try looking in this document:

<http://mirror.hmc.edu/ctan/info/short-math-guide/short-math-guide.pdf>

Please type up your proofs to each of the following problems in L<sup>A</sup>T<sub>E</sub>X. Make sure to use complete sentences and appropriate punctuation. Also, make sure to edit for typos. Email me your final draft.

*And please email me if you have any questions!*

1. Prove that if  $G$  is a group, then each  $g \in G$  has a unique inverse.  
(See Theorem 2.41.)
2. Prove that if  $G$  is a group, then  $(gh)^{-1} = h^{-1}g^{-1}$  for all  $g, h \in G$ .  
(See Theorem 2.45.)

*You will see in the template that I got you started, but feel free to erase what I wrote.*