

# MATH 250: DAILY PREPARATION

## Overview

In section 3.5 we first encounter the division algorithm. This formally allows us to do something that we've probably been wanting to do all along: perform division with integers. The proof is quite long, and outside the scope of this class (but if you take number theory with me I'll prove it for you!).

## Basic learning objectives

These are the tasks you should be able to perform with reasonable fluency **when you arrive at our next class meeting**. Important new vocabulary words are indicated *in italics*.

- State the Division Algorithm.
- Understand how the Division Algorithm formally tells us the cases to consider in any proof involving divisibility by  $n$  or congruence modulo  $n$ .

## Advanced learning objectives

In addition to mastering the basic objectives, here are the tasks you should be able to perform in the near future **with practice and further study**:

- Understand the many key perspectives that the Division Algorithm affords. See p. 144 of the text particularly.
- Apply the Division Algorithm appropriately in relevant proof settings.
- Understand how the "properties of congruence" section of 3.5 enables us to streamline several kinds of proof by cases by focusing solely on certain remainders.

## Resources

*Reading:* Read page 141-145.

*Watching:* Here are some additional resources that have been developed to support your learning:

- Screencast 3.5.1: <http://gvsu.edu/s/sk>
- Screencast 3.5.2: <http://gvsu.edu/s/sl>

## Questions

*Different directions:* Respond to the web form at the link below by no later than 9:25 a.m. on Thursday, 02/05.

<http://goo.gl/forms/qFBSgJciZ0>