Math 250: Daily Preparation

Overview

In our next meeting we will take a more in-depth look at the *relations* we first encountered in section 7.1. In particular, we will discuss some special properties a relation can have to make it an *equivalence relation*. We will view these in the context of directed graphs.

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*.

- Understand what it means for a relation to be *symmetric*, *reflexive*, and *transitive.*
- Know the relationship between directed graphs and properties of relations.
- Recognize what it means for a relation to be an *equivalence relation*.

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 connection between equivalence relations and congruence modulo n.
- Be able to prove when a relation is an equivalence relation.
- Recognize how equivalence relations naturally partition sets.

Resources

Reading: Read pages 375-379.

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

- Screencast 7.2.1: http://gvsu.edu/s/w4
- Screencast 7.2.2: http://gvsu.edu/s/w5

Questions

Respond to the following questions on separate paper, as explained in the document that describes guidelines and expectations for daily preparatory assignments. You should be prepared to show me your responses at the start of class; I will review your work briefly sometime before the end of class.

1. Complete Preview Activity 1 in Section 7.2.

2. Complete Preview Activity 2 in Section 7.2.

3. Complete Progress Check 7.9.