PMAT 2320 – Discrete Mathematics   Assignment #4
Fall 2001

Instructions

- Answer each question completely; justify your answers.
- This assignment is due at 9:00 am on October 16, 2001.

1. Define $\sim$ on $\mathbb{Z}$ by $x \sim y$ if $4 \mid (3x + y)$.

   (a) Show that $\sim$ is an equivalence relation on $\mathbb{Z}$.

   (b) What is $\overline{0}$?

   (c) What is $\overline{1}$?

   (d) What is $\overline{2}$?

   (e) What is $\mathbb{Z}/\sim$?

2. Exercise 2.4.9.

3. Exercise 2.4.17.

4. Exercise 2.4.18.

5. Exercise 2.5.1, parts (c), (d), and (e).