

HW1, due Friday September 16
Math 403, Fall 2011
Patrick Brosnan, Instructor

Reading Assignment

Please read Chapter 1 of Herstein's book.

Writing Assignment

Please work the following problem set and hand in compute Problem 1-5 are worth 12 points each and problems 6 and 7 are worth 20 points each.

1. Find all positive integers less than 25 which are relatively prime to 25.
2. Let n denote a positive integer. Suppose that n , $n + 2$ and $n + 4$ are all prime. Show that $n = 3$.
3. Find integers m and n such that

$$41m + 12n = 1.$$

4. Compute 7^3 module 9. Then compute 7^{31} modulo 9.
5. Herstein 1.1 problem 10.
6. Herstein 1.3 problem 6.
7. Herstein 1.3 problem 7.