MTH 310 - Spring 2011 - Hwk # 6 (due Wednesday, 01/26/11)

Directions. Please work on the problems below. Your solutions must begin with a clear statement of the problem, followed by a clear, legible solution (or partial progress towards a solution). Please refer to the syllabus for the policy on grading and late homework.

Collaboration. I encourage you to discuss the homework problems with your classmates. However, each student must submit his or her own homework solutions. In particular, you are welcome to discuss any of the problems online on our Google Groups discussion forum.

Current Reading Assignment. To date, you should have read (at least once) sections 1.1 - 1.3, section 2.1, and appendices A, B, C, and D. For Wednesday, please read sections 2.2 and 2.3.

1. #2 in Appendix D.
2. #20 in Section 1.3
3. #2 in Section 2.1
4. #12 in Section 2.1
5. #19 in Section 2.1
6. Find the unique solution to

\[ r \equiv (42)^{17} \pmod{5} \]

such that \(0 \leq r < 5\).