MAT312-AMS351

Applied Algebra

Homework set 3

Due October 1

1. From section 1.5 do all the problems problems.

2. From Section 1.6 do problems 3, 4, 7, 5, 6, 8.

3. What is the last digit in the decimal representation of 3^{400}? (Hint: You need to compute congruences (mod 10). Use a *nice* theorem to prove that $3^4 \equiv 1 \pmod 5$. Then, using that $3^4 \equiv 1 \pmod 2$ prove $3^4 \equiv 1 \pmod{10}$, then find how to apply this to the question that was asked.)

4. Do Worksheet #3.