

Math 215: Introduction to Advanced Mathematics
Problem Set 4

Due Friday September 27

Do pg. 55: 14, 15, 16, 17, 21

Bonus Problem: (10pt) Let u_n be the n^{th} -Fibonacci number.

a) Prove the following formula:

$$u_{m+n} = u_{m-1}u_n + u_mu_{n+1}.$$

[Hint: Prove by this by induction on n .]

b) Using a) and induction on n prove that u_m divides u_{mn} .