

Last Homework Set!**book problems**

§11.3 4, 5

§11.4 17

§15.2 1(a),(b), 2(b), 5(a), 9

§15.3 1(a),(b), 2, 4(a),(b).

Non-book problems: 1. Let $F_n = 2^{2^n} + 1$, the n th Fermat number. Prove that for all $n \in \mathbb{N}$,

$$\prod_{i=0}^n F_i = F_{n+1} - 2.$$

2. Using part 1. show there are infinitely many primes.

Extra credit problem (at least 2, but up to 5 points): Profile a mathematician who studied/studies number theory and is not featured prominently in our book. Include years lived, country of residence(s), problems worked on, and anything else you find interesting. Officially I suggest at least three paragraphs, three sentences each. To make sure that each person in the class profiles a different mathematician, clear your selection with me first, first come, gets first selection.