

What to Study for Test #2  
MTH 4436 – Number Theory  
Fall 2016

Test #2 covers Sections 2.4 – 4.3 (inclusive) in the text

Definitions and Theorems That You May Be Asked to State:

Def – Diophantine Equation (p. 33)  
Theorem 2.9  
Def – Prime  
Def – Composite  
Theorem 3.1  
Corollary 1 (page 40)  
Corollary 2 (page 40)  
Thm 3.2 – Fundamental Theorem of Arithmetic  
Corollary (Page 42)  
Def – Congruent/incongruent modulo  $n$   
Theorem 4.1  
Theorem 4.2  
Theorem 4.3  
Corollary 1 (page 67)  
Corollary 2 (page 67)  
Theorem 4.4  
Theorem 4.5  
Theorem 4.6

Any Theorem or Lemma that has a name, you should KNOW by name. The other theorems, lemmas, and corollaries you should know so that you can give their statement when asked something like: “state three theorems, lemmas, corollaries, etc. involving congruences.

Know How to Do:

Theorem 3.3 (Know how to prove this)  
Theorem 3.4 (Know how to prove this)

Know how to prove: “Given a natural number  $n > 2$ , there exist  $n$  consecutive composite numbers.”

All homework problems assigned in sections 2.4 – 4.3 (inclusive) *except*:

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