

INTRODUCTION TO NUMBER THEORY  
Spring 2016

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**Homework # 1**

**Last Updated:** January 28, 2016  
**Due Date:** Thursday February 4th

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Some of the questions for this set are exploratory and/or open-ended. Do not be afraid to experiment, and I expect you to not be able to answer every question fully.

FRINT Chapter 1:

- (1) 1.1
- (2) 1.2
- (3) 1.3
- (4) 1.4

FRINT Chapter 2:

- (5) 2.1
- (6) 2.2
- (7) 2.7

Additional Problems:

- (8) Show that if  $d$  divides  $a$  and  $d$  divides  $b$ , then for any integers  $x$  and  $y$ , we also have that  $d$  divides  $ax + by$ .