Name: _____

Read and take notes on Section 1.4, Divisibility and Section 1.5, Multiplicative Inverses.

Reading Questions

1. Make sure you are familiar with the terminology and notation introduced in Section 1.4, especially the following terms: divides/divisor, properly divides/proper divisor, relatively prime, coprime, greatest common divisor.

2. The theorem on the greatest common divisors of two integers is important. Make sure you have it in your notes, word for word.

3. What is the greatest common divisor of 4 and 6? By trial and error, write this number in the form given in the theorem, i.e. find two integers, x and y, such that $\gcd(4, 6) = 4x + 6y$.

4. Carefully reread the first proposition in Section 1.5. (Make sure it's in your notes, word for word.)

   (a) Which of the integers 0, 1, 2, 3, ..., 23 have a multiplicative inverse modulo 24? (You don't need to find the inverses to do this.)

   (b) Which of the integers 0, 1, 2, 3, ..., 25 have a multiplicative inverse modulo 26?

5. Carefully reread the second proposition in Section 1.5. Given the fact that 2 is a multiplicative inverse for 3 modulo 5, use this proposition to find six other integers that are multiplicative inverses for 3 modulo 5.

6. Try exercises 1.5.01 and 1.5.02.

7. What struck you in this reading? What is still unclear? What remaining questions do you have?