

Homework

Tuesday, August 23

Warmup exercises. To present in class Thursday, August 25.

1.7, 1.8, 1.9, 1.10, 1.23, 1.27.

Reading assignment. Read Sections 1.1 and 1.2 (which we are discussing Tuesday, August 23).

Read Section 1.3 Euclid, up through p. 28, and be ready to answer the following reading questions on Thursday, August 25.

1. The textbook claims that the Least Integer Axiom is “a generalized version of Infinite Descent”. Explain why this is so.
2. Why is $0|0$ true?
3. Why is 1 not considered a prime number? Who decides these things anyway?
4. Give an example of the Division Algorithm (Theorem 1.15) in action. (This should not be too hard; what is a little harder is the proof of the theorem.)
5. Give some examples of greatest common divisors of pairs of numbers. Pick good examples that help illustrate the definition. Then use your examples to illustrate Theorem 1.19 and Corollary 1.20.
6. Have you seen the phrase “linear combination” before? If so, how does that definition match the definition in the textbook?
7. The definition of primitive Pythagorean triples says that there is no integer (greater than 1) that divides *all three* numbers in the triple. What if an integer (greater than 1) divides just *two* of the numbers in the triple?