

Ideas in Mathematics
Math 170, Spring 2016
Quiz 2

Set theory, roughly speaking, studies collections of things. A very basic thing you might like to know about a set is how big it is.

1. Consider the set of students taking Math 170 this semester, and the set of all undergraduate students in Penn. Which set is larger? This should be an easy warmup.

2. Consider the set of even integers, and the set of odd integers. Is one of the two sets larger than the other? Explain.

3. Consider the set of all positive integers, and the set of *all* integers, positive and negative. Is one of the two sets larger than the other? Explain.

4. Determining whether two sets, each with a finite number of elements, have the same size is easy. What does it mean for two infinite sets to have the same size?
