

MATH 113: DISCRETE STRUCTURES
READING QUESTIONS FOR MONDAY WEEK 5

Reading assignment. *DM:EB §2.4.*

Problem 1. Reinterpret the pigeonhole principle in terms of functions. (Your answer should be phrased in terms of the (non)existence of a particular type of function when a certain condition on the cardinalities of the domain and codomain is met.)

Problem 2. Prove that within any set of 51 numbers between 1 and 100 there is a pair of elements whose sum is 100. (*Hint:* How many pairs of numbers between 1 and 100 add up to 100?)