

MATH 113: DISCRETE STRUCTURES
WEDNESDAY WEEK 10 HANDOUT D

Metaproblem. Answer the following questions about Problem 1 *before* attempting a solution. Compile these answers and then work on a solution to the problem if time remains.

- (a) To what core topics is the problem related?
- (b) List a couple or several problem solving or proof techniques that might be useful.
- (c) If the problem is stated abstractly, devise a concrete version. If the problem is phrased in concrete terms, create an abstract version.
- (d) *If this is your last problem*, make a list of core topics not covered by the four review problems.

Problem 1. Suppose you pick people at random and ask them their birthday. Let X be the number of people you have to question until you find a person who was born in November. What is $E(X)$ (assuming birthdays are distributed uniformly randomly, and ignoring the existence of leap days)?