Math 11200/20 homework 1
Due date: Friday, September 30, 2016

Note: You shouldn’t need to use a calculator for these problems.

Please justify your answers. Think of it this way: you need to be able to convince your classmates that your answer is correct.

Problem 1.1. Please fill out the survey if you haven’t already! https://goo.gl/forms/ZYJ19tELDEIL3Fxp2

Problem 1.2. Recall the triangle game from the 9/26 class.

(a) What if instead of \{1, 2, 3, 4, 5, 6\}, we use \{7, 8, 9, 10, 11, 12\}?
(b) What if (using \{1, 2, 3, 4, 5, 6\}), we take the product along each of the three sides instead?

Problem 1.3. Can you place the numbers 1 through 9 in the 9 squares so that the sum of each row, column, and diagonal is the same? How many ways are there to do this? (Hint: what numbers can go in the center?)

Problem 1.4. Can you place the numbers 1 through 6 in a 2 × 3 grid so that the sum of each row and column is the same? How many ways are there to do this? What about the numbers 1 through 12 on a 3 × 4 grid? What about the numbers 1 through 20 on a 4 × 5 grid?