



# CSE 15: Discrete Mathematics

## Homework 6

Spring 2019

### Introduction

The purpose of this assignment is to give you some practice with modular exponentiation, as well as finding the greatest common divisor. As always, you will also be practicing your  $\text{\LaTeX}$  skills.

### Exercises

Create a new  $\text{\LaTeX}$  document and type out the solutions to the following exercises. Your document should include an appropriate title, your name, as well as a date. Please number your solutions appropriately, and show all the steps in your solutions. Points will be awarded not for the final answer but for the way you arrived at it. Upload your `.tex` and your `.pdf` files under the relevant CatCourses assignment.

### Modular Exponentiation

1. Compute the binary expansion of 2019
2. Compute  $13^{2019} \pmod{37}$

### Greatest Common Divisor

1.  $\gcd(288, 126)$
2.  $\gcd(899, 703)$