

PROBLEM SET #5

MA 109C: INTRODUCTION TO GEOMETRY AND TOPOLOGY

Due on Friday May 16, 2024

Solve the following problems from the textbook *Differential Topology* by V. Guillemin and A. Pollack. You may only use the relevant course material described below.

- (1) Chapter 3, section 5, exercises 3
- (2) Chapter 3, section 5, exercise 5
- (3) Chapter 4, section 2, exercise 6
- (4) Chapter 4, section 2, exercise 10
- (5) Chapter 4, section 2, exercise 11

Relevant course material for this homework: Up to section 2 of Chapter 4.

You may not search the solutions to the homework problems from any source and you must write the homework in your own words. If you collaborated with other students, you must list their names on the solutions.

I strongly recommend that you solve, but not submit solutions for, the following additional problems.

- Chapter 3, section 5, exercises 14, 16, 17 (It will be convenient to assume exercises 10, 12, 13.)