

### 18.950/9501 (S20): HOMEWORK 3

The book references are to do Carmo, *Differential Geometry of Curves and Surfaces*. (The numbers for the assigned problems are the same in both editions of the book.)

**Due:** Thursday, Feb 27, in class.<sup>1</sup>

**Exercise 1.** Chapter 2–4, Problem 13. (A *normal vector* to a regular surface  $S$  at the point  $p \in S$  is a normal vector to the tangent plane  $T_pS$ .)

**Exercise 2.** Chapter 2–4, Problem 17.

**Exercise 3.** Chapter 2–4, Problem 18.

**Exercise 4.** Chapter 2–5, Problem 1.

**Exercise 5.** Chapter 2–5, Problem 7.

**Exercise 6.** Chapter 2–5, Problem 14.

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*Date:* February 20, 2020.

<sup>1</sup>See the course website, <https://math.mit.edu/~phintz/18.950-S20/>, for homework policies.