

Homework 10

Math 282 Computational Geometry
due 5:00pm on Tuesday, May 4

Solve the following problems from the textbook, and write your solutions clearly and neatly. Make sure to explain your reasoning and provide mathematical details that support your answers. For a few tips on writing solutions, see [this helpful guide for mathematical writing](#).

These exercises are for everyone, regardless of whether or not you are taking this course for CS elective credit.

You may write or type your solutions electronically, or write them on paper and scan/photograph them. If you photograph your papers, please use a scanning app to produce a single PDF file containing your solutions. Upload your written solutions to the [Homework 10](#) assignment on Moodle.

1. Exercise 6.11
2. Exercise 6.13
3. Exercise 6.16
4. Exercise 6.17
5. Exercise 6.18 — A *topological sphere* is any surface homeomorphic to a sphere. Roughly speaking, the surface can be deformed (without tearing or gluing) into a sphere.
6. Exercise 6.20
7. Exercise 6.26
8. Exercise 6.45
9. Exercise 6.51
10. If every face of a polyhedron is a triangle and the degree of each vertex is either 5 or 6, then how many vertices have degree 5? Why?