

Homework 1.

Submission deadline: Friday, Sep 24 on paper or by email.

- 1** Is the complement of the 7-cycle planar?
- 2** Let G be a simple planar graph. Prove that you can add edges to G so that you make it 3-connected while keeping it simple and planar.
- 3** The edges of a simple planar map are 2-colored with red and blue. Prove that there is always a node where the red edges (and so also the blue edges) are consecutive.
[Hint: count the red-blue corners in two ways, and apply Euler's Formula.]