

# Graph Theory 2, MATH 5450, Spring 2023

Homework 8, 10.3. Euler's Formula, 10.5. Kuratowski's

Theorem,

Due Saturday, March 25, at 11:59 pm

**Write in complete sentences!!!** *Explain* what you are doing and convince me that you understand what you are doing and why. Justify all steps by quoting relevant results from the textbook, class notes, or hypotheses. Do not copy the work of others; **do your own work!!!**

**10.3.4. (a)** Prove that the complement of a simple planar graph on at least eleven vertices is nonplanar. HINT: Use Corollary 10.21 (twice).

**10.5.1.** Show that a simple graph  $G$  has a  $K_3$ -minor if and only if it contains a cycle. HINT: Use the notation of Note 10.5.A when showing that  $G$  contains a cycle.