Graph Theory 2, MATH 5450, Spring 2023

Homework 2, 5.1. Cut Vertices, 5.2. Separations and Blocks

Due Saturday, January 28, 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!!!**

5.1.2. Let G be a connected graph on at least three vertices, and let $e = uv$ be a cut edge of G. Prove that either u or v is a cut vertex of G.

5.2.1. Bonus. Let G be a nonseparable graph, and let e be an edge of G. Prove that the graph obtained from G by subdividing e is nonseparable.