

MATH 613. Fall 2019.

Homework #6. Due: December 4, in class. No late homework will be accepted.

Please write down clearly or type your solutions. It can be considered incorrect if it is hard to read. Collaboration is allowed, but everyone must write down and submit his/her solutions in his/her own words. Please write down your name and staple your sheets together before you submit your homework.

All the questions mentioned below are in the Exercise part of the corresponding sections in the textbook.

- Required submission questions:

- Section 5.1: 20, 43, 50.
- Section 5.2: 27, 32.

(Hint for 5.2.27: Ignore the condition “ $n \geq 6$ ” and prove this question by induction on n . Prove that the minimum counterexample contains a subdivision of K_4 and work on this subdivision.

Remark for 5.2.32(a): Add the condition $k \geq 3$, for otherwise the statement is false.)

- Suggested practice:

- Section 5.1: 22, 23, 25, 26, 27, 32, 33, 38, 40, 41, 44, 51, 55.
- Section 5.2: 9, 11, 12, 14, 15, 17, 34, 40.