

- d) Let G and H be defined as above. Express the independence number $\alpha(H)$ of H in terms of the independence number $\alpha(G)$ of G .
- e) True or false: For any graph G we have $|V(G)| \leq \alpha(G) \cdot \chi(G)$. (Recall that $\chi(G)$ is the chromatic number of G .) Give a proof or provide a counterexample.
- f) True or false: For any graph G we have $|V(G)| \leq \alpha(G) \cdot \omega(G)$. (Recall that $\omega(G)$ is the size of a largest clique of G .) Give a proof or provide a counterexample.
- g) Give an example of a graph that contains a ray but is *not* locally finite.
- h) Give an example of an infinite graph that has chromatic number exactly three.

Feedback:

How many hours did you spend working on the last assignment sheet?

The material covered last week was [] easy, [] fine, [] difficult, [] very difficult.

Comments?