

CS313H
Logic, Sets, and Functions: Honors
Fall 2012

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Good Morning, Colleagues

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Are there any questions?

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 - Apologies for imperfect modules
 - Honors material modules have harder questions

Quiz (closed notes - 7 minutes)

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- Prove that for a graph G , if $\text{MAX-DEGREE}(G) = 3$, then any simple circuit is actually a cycle.

Bipartite graphs

- If G is a connected, bipartite graph, prove that for every edge (u, v) , there doesn't exist any vertex s such that $\text{dist}(s, u) = \text{dist}(s, v)$ where $\text{dist}(x, y)$ is the length of the shortest path between x and y .

Planar Graph Applications

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- My own research (I'll try to show you on Tuesday)

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- For Tuesday, you'll see how to prove the 5-color theorem

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- Show that every planar graph has a vertex of degree at most 5.
- Prove that every planar graph is 6-colorable

Assignments for Thursday

- Modules 14.1 and 14.2
- Homework due at the start of class