Graph Theory

Comments on typical mistakes for HW # 11.

5.1.8 If H is a subgraph of G, it does **not** follow that $\delta(H) \leq \delta(G)$. (See K_{100} with an edge appended.)

5.1.25 For the lower bound $\chi(G) \geq 4$, it is **not enough** to exhibit the particular subgraph H on 7 vertices. You must also prove that (i) H is *not* three-colorable and that (ii) H *embeds* in the plane as a unit-distance graph.

For the upper bound you have to say something about *how* you are tiling.

5.1.31 In this problem, formal writing (i.e. naming vertices, naming a proper coloring, then defining an independent set in the product by saying the names of the vertices in it) really makes things more easy to describe and understand.