Last name _____

First name _____

LARSON—MATH 750—HOMEWORK WORKSHEET 01
Graph Posets

1. Let G be a graph. Let X be the collection of subgraphs of G. Define a relation "$\leq$" on X: for $H, H' \in X$ $H \leq H'$ if and only if H is a subgraph of H'. Show that $(X, \leq)$ is a poset.

2. Let G be a graph. Let X be the collection of subgraphs of G which have some property P (for instance, the subgraphs which are connected and spanning). Is it true that $(X, \leq)$ is a poset regardless of what property P is?