

Math 220: Discrete Mathematics
HW for 7.2 and 7.3

1. How many simple graphs are there on n vertices?
2. How many edges does a tree with n vertices have?
3. How many edges does the complete bipartite graph $K_{m,n}$ have?
4. Draw a digraph for each of the following relations:
 - (a) The relation “*divides*” on the set $\{2, 4, 6, 8\}$. (So a is related to b iff a divides b .)
 - (b) The relation $=$ on $\{1, 2, 3, 4\}$.
 - (c) The relation “*is relatively prime to*” on $\{8, 9, 10, 11, 12\}$.
5. Use the Brute-Force Algorithm to find the lowest cost Hamiltonian circuit in the graph shown below.

