Assignment 13 due 11/19

1. Section 11.5, Problem 1

2. Section 11.5, Problem 10

3. Section 11.5, Problem 18

4. Section 11.5, Problem 20

5. Determine, with explanations, the Chromatic Numbers of the following graphs. Your answers may depend on $n$ and/or $m$.

- The complete bipartite graph $K_{m,n}$ (assuming both $m$ and $n$ are positive)
- $C_n$, the cycle on $n$ vertices (assuming $n \geq 3$)
- $Q_n$, the $n$ dimensional hypercube (assuming $n \geq 1$)
- $W_n$, the “wheel graph” formed by adding one “hub” vertex in the center of an $n$-cycle and connecting it to every other vertex in the cycle (see figure 11.11 on page 519 of your book), (assuming $n \geq 3$)
- The Petersen graph (we’ve used this graph as an example in class, see also figure 11.52(a) on page 544)