PHYCS 598CFT
Spring 2005
Homework 5
Due Tuesday March 15

1. Verify formulas (7.62) and (7.65) in the text.

2. Consider the minimal model $\mathcal{M}(5, 3)$.
   
   (a) Find the central charge, and list all the primaries and their weights.
   
   (b) Write down all the fusion rules, truncated as much as possible.

   (c) Find the first six levels at which singular vectors appear in the Verma module $V_{1,2}$.

   (d) Find the character of the irreducible representation spanned by $|h_{1,2}\rangle$, expanded up to order $q^{h_{1,2} - c/24+8}$. 