

CHEM 190 and CHEM 290

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Homework No. 3 Due April 26 in class

1. Textbook Chapter 8 No. 97
2. Textbook Chapter 8 No. 109
3. Textbook Chapter 8 No. 113
4. Textbook Chapter 8 No. 125
5. Textbook Chapter 8 No. 139
6. Textbook Chapter 8 No. 152 simplified: Show that $e^A e^B = e^{A+B}$ if A and B commute. Note: This turns out to be a *very* important relation for quantum mechanical applications. If A and B do not commute then the relation in general does *not* hold. To show what I am asking here requires considerable dexterity with summations and summation indices and changing orders of summation with carefully associated changes in summation limits.
7. Textbook Chapter 8 No. 153
8. Textbook Chapter 8 No. 165

ONLY FOR CHEM 290 STUDENTS

1. Textbook Chapter 3 No. 3
2. Textbook Chapter 3 No. 17
3. Textbook Chapter 3 No. 22
4. Textbook Chapter 3 No. 29