

**Physics 335—Thermal Physics**  
**Homework Assignment #3**  
**Due Wednesday, September 18, 2024, 11:40 a.m.**

**Ch 2:** Problems 2.16, 2.17, 2.19, 2.24, 2.29, and 2.30 (20 pts. each).

*Hints:* For problem 2.16,  $N$  is large but the calculation is tractable if you do some algebra by hand and cancel or simplify various terms. Ultimately, you should get an expression that you can evaluate on your calculator.

Problem 2.24 can be rather long; follow the analogous calculation in the text to give you some guidance for how to proceed.

For Problem 2.30, you should just use the results of Problem 2.22. You do not need to re-derive them.