

Lecture 8—Probability and Statistics (Ch. 3)

Friday January 25th

- Quiz on Chapter 2
- Classical and statistical probability
- The axioms of probability theory
- Independent events
- Counting events

Reading: All of chapter 3 (pages 52 - 64)

Homework 2 due TODAY

*****Homework 3 due Fri. Feb. 1st*****

Assigned problems, Ch. 3: 8, 10, 16, 18,

20

Homework assignments available on

web page

AND NOW FOR SOMETHING
COMPLETELY DIFFERENT

**Classical
Thermodynamics**

Classical and statistical probability

Classical probability:

- *Consider all possible outcomes (simple events) of a process (e.g. a game).*
- *Assign an equal probability to each outcome.*

Let W = number of possible outcomes (ways)
Assign probability p_i to the i^{th} outcome

$$p_i = \frac{1}{W} \quad \& \quad \sum_i p_i = W \frac{1}{W} = 1$$