Week #4: Tuesday, January 28 - Tuesday, Feb 4
Reading: Sakurai: Chapter 2, section 3.

Homework #4: Due Tuesday, Feb 4, 5 PM.
Please turn your solutions in to Rafe Howell.

Sakurai, Chapter 2: Problems 11, 13, 14(a), 15
These are due one day early so you will have the solutions an extra day before the exam. Problems from sections 2.4 and 2.5 will wait until after the exam. Solutions for these will be available 5 PM Tuesday.

Hints:

Problem 2.11 is funny because he gives you a time dependent state ket but them wants us to use the Heisenberg representation. But we know how to do that.

Hint: write $|a\rangle = \exp(-i p a/\hbar)|0\rangle$ at $t = 0$. In the Heisenberg picture $< x >$ means $\langle a | x(t) | a \rangle$. Answer: $a \cos \omega t$.

Problem 2.15 gives a gaussian integral. Look it up or use Maple or Mathematica. Answer: $C(t) = \frac{n}{2 m \omega} \cos \omega t$