1. Do problems 7.7, 7.8, 7.9, 7.10, and 7.16 from the textbook.

2. (Spring 2000, #9, SOA) For a 10-year deferred whole life annuity of 1 on (35) payable continuously:
   (i) Mortality follows De Moivres law with $\omega = 85$.
   (ii) $i = 0$.
   (iii) Level benefit premiums are payable continuously for 10 years.
   Calculate the benefit reserve at the end of five years.

3. (Fall 1996 #30, SOA) For a portfolio of 100 deferred life annuities, you are given:
   (i) The annuities were issued as 10-year deferred life annuities of 1 per year payable continuously.
   (ii) No death benefits are payable.
   (iii) Level benefit premiums are payable continuously during the deferral period.
   (iv) The composition of the portfolio on January 1, 1996 is:
   
<table>
<thead>
<tr>
<th>Age at Issue</th>
<th>Issue Date</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>January 1, 1994</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>January 1, 1990</td>
<td>40</td>
</tr>
</tbody>
</table>
   
   (v) $\mu(x) = 0.03$, $x \geq 0$
   (vi) $\delta = 0.05$
   Calculate the expected aggregate benefit reserve on January 1, 2001.

4. (Sample Question #85) For a special fully continuous whole life insurance on (65):
   (i) The death benefit at time $t$ is $b_t = 1000e^{0.04t}$, $t \geq 0$.
   (ii) Level benefit premiums are payable for life.
   (iii) $\mu_{65}(t) = 0.02$, $t \geq 0$.
   (iv) $i = 0.04$.
   Calculate $2\overline{V}$, the benefit reserve at the end of year 2.

5. (Sample Question #203) For a fully continuous whole life insurance of 1 on (30), you are given:
   (i) The force of mortality is 0.05 in the first 10 years and 0.08 thereafter.
   (ii) $\delta = 0.08$.
   Calculate the benefit reserve at time 10 for this insurance.