Actuarial Mathematics II

Name: \_

## **Preview Chapter 6: Premium Calculation**

Directions: Print out and complete, based on your reading of the text. If there are multiple sheets, staple together the top left corners (in the correct order). Turn in at the start of class on the date due. Do not submit answers on notebook paper or via email. No credit for late or incomplete preview assignments. Assignments may be turned in, in advance, to my mailbox in 233 MSB.

## §6.7: Profit

1. Why is it necessary for insurance business to be profitable?

2. How do we load for profit implicitly in traditional insurance?

- 3. What must we do to make the actual profit from a group of policies reliably close to the expected profit?
- 4. Define the term **diversification**, as it is used in this section.
- 5. Does the insurer make a profit or loss on a whole life insurance policy if the insured life dies soon after purchasing the policy? Why?
- 6. Does the insurer make a profit or loss on a whole life insurance policy if the insured life lives to old age? Why?
- 7. Does the insurer make a profit or loss on a single-premium life annuity if the annuitant dies soon after purchasing the policy? Why?
- 8. Does the insurer make a profit or loss on a single-premium life annuity if the annuitant lives to old age? Why?