

Name: _____ Quiz Score: _____/20

Quiz 1: Thursday, January 22, 2015

1. (3 pts) What is the difference between **net premium** and **gross premium**?

2. (3 pts) Define (give a “formula in words”):

$$L_0^n =$$

3. (14 pts) Sally, currently exact age 50, joined a defined benefit pension plan at exact age 40. Her current salary is \$100,000 per year. She will retire at exact age 65.

You are given:

- Sally's salary will increase at the rate of 3% each year on her future birthdays.
- The annual retirement benefit is 1% of the final five-year average salary for each year of service.
- Sally wants to supplement this annual retirement benefit with an annuity, so that the total annual benefit is \$50,000.
- Retirement benefits will commence at exact age 65 and are payable at the beginning of each year of life.
- $\ddot{a}_{65} = 9.8$

Calculate the amount Sally needs at age 65 to purchase the annuity to receive her desired annual retirement benefit.