MAP 4176 / 5178 Name:____________________________
Test 12 Date: December 2, 2015

Show all work for full credit, use correct notation., and clearly mark your answer.

1. Using ILT assumptions determine
(a) the single benefit premium for a whole-life insurance of 100,000 issued to (40) with benefit payable at the end of the year of death.

(b) the variance of the present value random variable for the insurance in part (a)

2. Using ILT assumptions determine
(a) the single net premium for a 20-year pure endowment of 5000 issued to (30).

(b) the variance of the present value random variable for the insurance in part (a)

3. Using ILT assumptions, determine
(a) the actuarial present value for a 10-year deferred whole-life insurance of 1,000 issued to (35) with benefit payable at the end of the year of death.

(b) the variance of the present value random variable for the insurance in part (a)

4. Using DML(100) mortality and $i = .06$, determine
   (a) the EPV for a discrete 10-year term insurance of 10,000 issued to (40).

   (b) the variance of the present value random variable for the insurance in part (a)

5. Using constant force assumptions with $\mu = .02$ and $i = .05$, determine

   (a) the EPV for a 20-year deferred whole life insurance of 500 issued to (x) with benefit payable at the end of the year of death.

   (b) the variance of the present value random variable for the insurance in part (c)