Module 4 Section 3 Exercises:

1. For a fully discrete whole life insurance of 10000 issued to (30) that has annual premiums of 70, use ILT actuarial assumptions to determine $Var(_{20}L)$.

2. A fully discrete whole life insurance issued to (30) pays 10000 at the end of the quarter of death. Premiums of 18 are paid at the beginning of each quarter. Given $A_{50} = 0.25$ and $i = .06$, and assuming CAA, determine $_{20}V$.

3. A fully continuous whole life insurance of 5000 issued to (x) has an annual premium rate of 225 that's payable for a maximum of 10 years. Using $CF(\mu = .02, \delta = .04)$, Determine $Var(_{10}L)$.

4. A fully discrete whole life insurance issued to (30) has death benefit in the first year equal to 1000. Subsequent years' death benefit is 1000 more than the previous year's death benefit until reaching a death benefit of 9000. Thereafter the death benefit remains 9000. Premiums are X for the first 10 years and 55 thereafter. Using ILT actuarial assumptions, determine the standard deviation of $_{10}L$.