Module 2 Section 7 Exercises:

1. A whole life annuity issued to (30) pays 100 at the beginning of each year. Using ILT actuarial assumptions, determine the probability that the present value of the payments is greater than or equal to 800.

2. A whole life annuity issued to (30) pays 100 at the end of each year. Using DML(100) mortality and $i = 6\%$ actuarial assumptions, determine the probability that the sum of the payments made is greater than or equal to 800.

3. A continuous whole life annuity with annual payment rate of 600 is issued to (x). Determine the probability that the present value of the payments is less than less than 9000, given constant forces $\mu = .04$ and $\delta = .02$.

4. A 5-year deferred whole life insurance issued to (40) pays 25000 at the end of the year of death. Using DML(80) mortality and $i = 5\%$, determine the probability that the present value of the benefit is less than 10000.

5. A 10-year deferred whole life insurance issued to (x) pays 25000 at the moment of death. Using constant forces $\mu = .03$ and $\delta = .06$, determine the probability that the present value of the benefit is greater than 9000.

6. A 10-year deferred whole life annuity issued to (x) pays continuous at a rate of 100 per year. Using constant forces $\mu = .03$ and $\delta = .06$, determine the probability that the present value of the benefit is greater than 750.

7. A 5-year deferred whole life annuity due issued to (35) pays 100 per year. Using ILT actuarial assumptions, determine the probability that the present value of the benefit is less than 900.