

4. A 5-year temporary life annuity due with annual payments issued to (30) has a first payment of 1000. Subsequent payments are 2% larger than their previous payments. Determine the APV of this annuity using ILT mortality and $i = 8.12\%$.

5. In a homogeneous Markov model with 3 states: Healthy (H), Sick (S), and Dead (D), you are given:

(i) the annual transition probabilities are

	H	S	D
H	.80	.15	.05
S	.40	.50	.10
D	0	0	1

(ii) in a population of x -year olds, 80% are healthy and 20% are sick

A 3-year temporary life annuity due with annual payments issued to (x) pays 500 if (x) is sick. For a randomly selected person selected from the population of x -year olds, determine the APV of this annuity using $d = 0.1$.