



3. For a double decrement model, you are given:

- (i) in the associated single decrement model, decrement 1 is uniformly distributed with a terminal age of 100
- (ii) decrement 2 has a constant force of departure equal to 0.02

Determine  ${}_{10}q_{75}^{(2)}$ .

4. For a double decrement model, you are given:

(i)  $\mu_{x+t}^{(1)} = 2t$

(ii) 50% of decrement 2 occurs at time  $t = 0.2$ , and the rest occurs at time  $t = 0.8$

(iii)  $q_x^{(2)} = 0.3$

Determine  $q_x'^{(2)}$ .

5. For a triple decrement model, you are given:

- (i)  $q_x^{(1)} = 0.1$  and decrements 1 is uniformly distributed in the associated single decrement table
- (ii)  $q_x^{(2)} = 0.2$  and decrements 2 is uniformly distributed in the associated single decrement table
- (iii)  $q_x^{(3)} = 0.3$  and decrement 3 is a beginning of year decrement

Determine  ${}_{0.5}q_x'^{(1)}$ .