Assume that mortality follows de Moivre’s law with $\omega = 75$ and $i = 0$.

1. (5 pts.) Using the prospective formula, calculate the benefit reserve at the end of 10 years for a fully continuous 20-payment, 30-year endowment insurance of $1 issued to (35).

2. (5 pts.) Using the retrospective formula, calculate the benefit reserve at the end of 5 years for a unit benefit 10-year term insurance payable at the time of death of (45) with a single premium.