Exercise 4.18

(a) The insurance is a whole life policy issued to (30) with benefits payable at the moment of death, continuously increasing if death occurs before reaching age 55, and equal to a constant payment of 25 if death occurs after age 55.

(b) The Actuarial Present Value (APV) can be written in terms of standard actuarial functions as:

$$\mathrm{E}[Z] = (\bar{I}\bar{A})^{1}_{30:\overline{25}|} + 25\,{}_{25|}\bar{A}_{30} = (\bar{I}\bar{A})^{1}_{30:\overline{25}|} + 25\,{}_{25}E_{30}\,\bar{A}_{55}.$$