

### Question #243

Answer: E

The benefit reserve at the end of year 9 is the certain payment of the benefit one year from now, less the premium paid at time 9. Thus, it is  $10,000v - 76.87$ .

The gross premium reserve adds expenses paid at the beginning of the tenth year and subtracts the gross premium rather than the benefit premium. Thus it is  $10,000v + 5 + 0.1G - G$  where  $G$  is the gross premium.

Then,

$$10,000v - 76.87 - (10,000v + 5 - 0.9G) = 1.67$$

$$0.9G - 81.87 = 1.67$$

$$0.9G = 83.54$$

$$G = 92.82$$