Solution to Exercise 17.1

The maintenance expense assumption is $Maintenance\ Per\ Policy = \dfrac{(3,000,000)(0.40)}{(50,000+52,000)/2} = 23.53$.

The denominator is the average number of policies in force during the year.

The issue expenses are:

$$Issue\ Expense\ Per\ Policy = \dfrac{3,000,000(0.60)(0.60)}{8,000} = 135.00$$

$$Issue\ Expense\ Per\ 1000 = \dfrac{3,000,000(0.60)(0.20)}{7,000,000} = 0.05$$

$$Issue\ Expense\ as\ Percent\ of\ Premium = \dfrac{3,000,000(0.60)(0.20)}{6,000,000} = 6.00\%$$