

	Per premium	Per policy
First year	45%	5.00
Renewal	5%	0.80

IV. Expenses are payable at the beginning of the year.

Calculate the expense premium.

$$A_{45} = 0.15161, \ddot{a}_{45} = 17.8162, \ddot{a}_{45:\overline{20}|} = 12.9391$$

Method1: $G = 14.3004$

$${}_{20}p_{45} = \frac{151.61}{12.9391} = 11.7172$$

$$P^e = 14.3004 - 11.7172 = 2.5832$$

Method2: $P^e = \frac{14.3004[0.05(12.9391)+0.4]+0.8 \times 17.8162+4.2}{12.9391} = 2.5832$

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