

9. (1.25 points)

Given the following information:

Expense Type	2014 Expense Amount
Other Acquisition	\$4,000
General	\$17,000
Commission and Brokerage	\$23,000
Taxes, License, and Fees	\$5,000

- 2014 written premium = \$200,000.
- 2014 earned premium = \$170,000.
- Statewide average loss cost per exposure = \$250.
- Profit and contingencies provision = 3%.
- General expenses are incurred throughout the policy term.
- All other expenses are incurred at the beginning of the policy.

Calculate the indicated average rate.

EXAM 5 SPRING 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION: 9

TOTAL POINT VALUE: 1.25

LEARNING OBJECTIVE(S): A5 / A6

SAMPLE/ACCEPTED ANSWERS:

Sample 1:

All-Variable Expense Method (assume all expenses are variable)

Expense type	(%) Exp Ratio
Other Acq	$4000/200000 = 2\%$
General	$17000/170000 = 10\%$
Commission	$23000/200000 = 11.5\%$
Taxes, Lic, Fees	$5000/200000 = \underline{2.5\%}$
	26.0%

Indicated Average Rate = $250/(1-0.26-0.03) = 352.11$

Sample 2:

PP = 250

General = 17,000

Indicated Rate = $(\text{Loss} + \text{LAE} + \text{Fixed Expense})/(1-\text{VE}-\pi)$

Variable Expense Ratio = $(\text{OA} + \text{CB} + \text{TLF})/\text{WP} = (4+23+5)/200 = 32/200 = .16$

GE/EP = $17/170$

General Expense = 10% of EP

Indicated Rate = $(250 + \text{FE}/\text{Exp})/(1-.16-.03)$

$P = (250 + .1P)/.81$

$.81P = 250 + .1P$

$.71P = 250$

$P = 352$

EXAM 5 SPRING 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT:

Candidates were expected to know how to calculate expense provisions, assuming all expenses were variable.

Candidates performed very well on this question, with many receiving full credit. The most common error was multiplying the fixed expense provision by the average loss cost. Another common mistake was to assume some expenses were fixed. The only appropriate way to treat fixed expenses given the information provided is as a percent of premium, which results in the same answer.