



Guide to
Readings -
A Student's
Perspective

8G

Practice Problem Set Fall 2004 Edition

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Question:

- A. Assume Wonderful Life's Group #2 was originally written February 2003. Calculate their first year renewal rates that will be effective February 2004.
- B. Wonderful Life wishes to change the relativity of the rates calculated in step A above so that the family rate is 2.70 times the single rate. Calculate the revised renewal rates.

Solution:

Part A.

Experience Claim Cost

Claims for Period 2/03 - 6/03 (5 Months)		\$207,000
Remove claims over \$50,000 pooling point	-	<u>21,000</u>
Net Claims		\$186,000
Annualize Claims (12/5)	x	2.400
Trend Claims to 2/1/04 Effective Date	x	1.173
Midpoint of experience period = 4/15/03		
Midpoint of projection period = 8/1/04		
Trend 8.5 mo. @ 0.9% and 7 mo. @ 1.2%		
Trended Net Claims		\$523,676
Add Pooling Charge (\$35 x 100 x 12)	+	<u>42,000</u>
Projected Claims		\$565,676

Manual Claim Cost

Base Rates ($\$150 \times 50$ plus $\$375 \times 50$) $\times 12$		\$315,000
Trend to 2/1/04		<u>1.01</u>
		\$318,780
Area Adjustment	\times	1.00
Benefit Adjustment	\times	0.75
Demographic Adjustment	\times	<u>1.05</u>
Trended/Adjusted Rates		\$251,039

Credibility Adjusted Claims

Credibility Factor = 25%

Credibility Adjusted Claims \$329,698
($0.25 \times 565,676 + 0.75 \times 251,039$)

Administrative Expense $+$ \$21,600

Projected Claims with Admin ($\$18 \times 12 \times 100$) \$351,298

Load for Commission, Risk and Profit $/$ 0.87
($1 - .08 - .05$)

\$403,791

Premium at Current Rates \$281,400
($50 \times \$134 + 50 \times \335) $\times 12$

Rate Increase 43.5%

New Single Rate ($\$134 \times 1.43$) \$192.28

New Family Rate ($\$335 \times 1.43$) \$480.70

Check: $191.62 \times 50 \times 12$ \$115,369

$479.05 \times 50 \times 12$ 288,422

\$403,791

Part B.

Premium Needed	\$403,791
Single Premium Weight (50 x 1.0 x 12)	600
Family Premium Weight (50 x 2.75 x 12)	<u>1,650</u>
Total of Premium Weights	2,250
Revised Single Premium (403,791 / 2,250)	\$179.46
Revised Family Premium (179.46 x 2.75)	\$493.52
Check: 179.46 x 50 x 12	\$107,678
493.52 x 50 x 12	<u>296,114</u>
	\$403,791