

2, p. 9: There is a minimum premium of \$100, **per nurse**.

2, page 23, solution 4:

	Base Rate	Specialty	Part-Time	Schedule Rating	Claims-Made	Product
Dr. Burns	\$10,000	0.95	1.00	1.05	2.00	\$19,950
Dr. Schotte	\$10,000	0.95	0.60	0.90	1.00	\$5,130
Dr. Payne	\$10,000	0.95	1.00	0.80	1.00	\$7,600
Dr. Sharpe-Needles	\$10,000	0.95	1.00	1.10	0.85	\$8,882
Dr. Fever	\$10,000	0.95	1.00	1.00	0.20	\$1,900
Total						\$43,462

(1.15) (1.7) (0.9) (0.93) (\$43,462) = **\$71,118**.

3, p. 13, Q. 2: The policy is canceled on October 31, 2011.

3, p. 15, solution 2:

	Original	Original	Transaction			Written	Written
	Effective	Termination	Effective			Exposures	Premiums
Policy	Date	Date	Date	Deductible	Territory		
A	6/1/11	5/31/12	6/1/11	\$250	4	1	\$2000
A	6/1/11	5/31/12	12/1/11	\$250	4	-0.5	-\$1000
A	6/1/11	5/31/12	12/1/11	\$500	4	0.5	\$900
B	5/1/11	4/30/12	5/1/11	\$500	15	1	\$1500
C	8/1/11	7/31/12	8/1/11	\$250	7	1	\$800
C	8/1/11	7/31/12	10/31/11	\$250	7	-0.75	-\$600

5B, p.38, Q.20: to December **31**, 2011

6A, p.17: The data in the spreadsheet should be labeled claim counts.

8A, p.5: Variable Expenses are **15%** of premiums.

8A, p.31: \$1,298,700 + \$22,072,744 = \$23,371,444.

8C, p. 83, sol. 14: Since the last rate change was 7/1/04 and the proposed rates go into effect 7/1/06, it would have been better to use two years rather than one of net trend as the complement of credibility.

8C, p. 89, sol. 21: We put Policy Year 2006 on the 2007 level, by multiplying by the net trend and dividing by the 1.15 rate change factor: $(54.14\%) (1.08) / 1.15 = 50.85\%$.

Policy Year	Earned Prem.	Loss Plus ALAE	LDF	Ultimate Loss + ALAE	Loss Ratio	Rate Level	Trend Adjust.	Ultimate L.R.
2006	41,638	21,470	1.05	22,544	54.14%	1.15	1.08	50.85%
2007	52,493	27,850	1.10	30,635	58.36%	1.00	1.00	58.36%

We take an average of the two loss ratios: $(50.85\% + 58.36\%) / 2 = 54.6\%$.

We then use this ultimate loss ratio, adjusted for trend and rate level changes.

For example for PY2010, $(54.6\%)(1.08^3) / 1.1 = 62.53\%$.

Expected percent unreported is: $1 - 1/LDF$. For example, $1 - 1/5 = 80\%$.

Expected Ultimate for PY2010 is: $(62.53\%)(45,571) = 28,494$.

Expected Unreported for PY2010 is: $(80\%)(28,494) = 22,796$.

Estimated Ultimate for PY2010 is: $22,796 + 8,788 = 31,584$.

Policy Year	LDF	Percent Unreported	2007 Ult. Ratio	Rate Level	Trend Adjust.	Ultimate L.R.	
2008	1.25	20.0%	54.6%	1.00	1.0800	58.97%	
2009	2.00	50.0%	54.6%	1.10	1.1664	57.90%	
2010	5.00	80.0%	54.6%	1.10	1.2597	62.53%	

Policy Year	Earned Prem.	Ultimate L.R.	Expected Ultimate	Percent Unreported	Expected Unreported	Reported Loss & ALAE	Estimated Ultimate
2008	50,254	58.97%	29,634	20.0%	5,927	19,815	25,742
2009	48,400	57.90%	28,022	50.0%	14,011	13,375	27,386
2010	45,571	62.53%	28,494	80.0%	22,796	8,788	31,584

Estimated Ultimate for PY2008 is: **\$25.742 million**.

Estimated Ultimate for PY2009 is: **\$27.346 million**

Estimated Ultimate for PY2010 is: **\$31.584 million**

9C, page 55, solution 14:

14. Using the credibility weighted adjustments would lead to a total earned premium of:

$(1)(1000) + (1.09)(200) + (1.96)(800) = 2786$, as opposed to the current 2000.

The off-balance factor is: $2786/2000 = 1.393$. Dividing by the off-balance factor, gives a Relativity Changes with Off-Balance for Class B of: $1.09/1.393 - 1 = 0.782 - 1 = -21.8\%$.

Class	Premium	Indicated Change	Credibility	Credibility Weighted Change	Rate Change Factor	Rate Change
A	1,000,000	1.000	100.0%	1.000	0.718	-28.2%
B	200,000	1.180	50.0%	1.090	0.782	-21.8%
C	800,000	1.960	100.0%	1.960	1.407	40.7%
Total	2,000,000	1		1.393	1.000	

Comment: See Page E-4 of Basic Ratemaking.

15B, Q. 56 and Q.93: The policy adjustment factor is used in the CGL experience rating plan when some of the policies are claims-made. This complication is no longer covered in the syllabus of this exam.

16A, p.4: The Accident Year is a **Northwest** to **Southeast** diagonal in the diagram.