8. (3 points)

Given the following information:

- All policies are annual and written on January 1.
- Rate change effective date is January 1, 2013.
- Rate level is reviewed annually.
- Underwriting guidelines were revised on January 1, 2011, substantially changing the composition of the book of business.

Accident Year	Reported Loss & ALAE as of June 30, 2012
2010	$ 10,000,000
2011	$ 6,000,000
2012	$ 1,500,000

Selected Reported Loss & ALAE Age-to-Ultimate Factors										
Month	6	12	18	24	30	36	42	48	54	60
Factor	6.50	2.00	1.55	1.20	1.12	1.08	1.05	1.02	1.01	1.00

Calendar Year Ending	Reported Loss & ALAE		
	Frequency	Severity	Pure Premium
Sep 2009	0.058	$20,355	$1,181
Dec 2009	0.059	$20,125	$1,187
Mar 2010	0.062	$20,500	$1,271
Jun 2010	0.063	$21,575	$1,359
Sep 2010	0.063	$21,388	$1,347
Dec 2010	0.065	$19,903	$1,294
Mar 2011	0.078	$19,567	$1,526
Jun 2011	0.078	$19,238	$1,501
Sep 2011	0.079	$19,538	$1,543
Dec 2011	0.082	$20,063	$1,645
Mar 2012	0.081	$20,050	$1,624
Jun 2012	0.082	$19,950	$1,636

# of Points	Annual Frequency Exponential Fit	Annual Severity Exponential Fit	Annual Pure Premium Exponential Fit
12	15.9%	-1.7%	13.9%
8	16.0%	-1.7%	14.0%
6	4.7%	2.9%	7.7%
4	4.1%	2.5%	6.7%

Calculate the 2010 accident year trended ultimate loss & ALAE to be used in a rate change analysis. Justify any trend selections.

CONTINUED ON NEXT PAGE

Exam 5 Question #8

Use 2-part trend since historical trend is different due to changing book of business. Assume 6-month reporting periods for trend period selection.

Historical trend period = 7/1/2010 - 4/1/1012 = 1.75

Projected trend period = 4/1/2012 - 7/1/2013 = 1.25

Historical trend selection: freq = 16% sev = -1.7%

Use 8 point trends tor both frequency and severity, this will account for the change in the book of business

Future trend selection: freq = 4.1% sev = 2.5%

Used 4 point trends for frequency and severity since this includes the period after the mix of business changed and should be indicative of future patterns.

2010 AY trended Ult Loss + ALAE = $10{,}000{,}000 \times 1.12 \times (1.16 \times .983)^{1.75} \times (1.041 \times 1.025)^{1.25}$

Used 30 month CDF-ULT factor 1.12

= $15,282,922

In both the written response and diagram, several candidates received no credit for describing the gap as happening when both the claims-made and occurrence policies were effective at the same time, rather than in a subsequent year.

As with part D, candidates did demonstrate a strong understanding of what was being asked, but some provided responses that were more involved than needed.

7. This question was a straightforward calculation. The most challenging part for candidates was the part of the question where it stated that losses given were prior to the 7/1/11 benefit change, and that all accident years needed to adjusted by the both benefit changes (the full amounts) for full credit.

   The majority of candidates missed this subtlety and approached the question by adjusting each accident year by a different amount. A common mistake among these candidates was to treat the 7/1/11 benefit change as applying to policies written on or after 7/1/11 (question stated that it applied to losses on or after) and/or treat the 10/1/12 benefit change as applying to losses on or after 10/1/12 (question stated that it was applied to policies written on or after).

   Several candidates correctly calculated the average benefit level for losses in each of the given accident years, but then multiplied the given losses by the average benefit level (rather than using the average benefit level to calculate a benefit level adjustment factor before applying).

8. Only a very small number of candidates received the full credit. One of the most popular mistakes is the incorrect trending periods. Very few candidates got it right. A significant portion of candidates missed the assumption that "All policies are annual and written on January 1" and therefore calculated the total trending period as incorrect 3.5 years. Another common mistake is the application of one step trending without any adjustment. Most candidates did not use two step trending or one step trending plus onetime adjustment to account for the underwriting guidelines change. Regarding the loss development part, most candidates got it correct. A small percentage of candidates misread the ultimate LDFs provided in the question as age-to-age factors. Almost all candidates understood the correct trend factor calculation (freq*sev) ^ trend period. They also understood the projected ultimate loss is calculated by multiply the incurred loss by the loss development factor to ultimate and trend factor. About 10% of all candidates did not attempt the question (having a blank or almost blank answer sheet).

9.

   a. Many candidates received full credit for this question. When there was an error committed, candidates either used the permissible loss ratio as the experience loss ratio or flipped the variable and fixed expense percentages.

   b. Many candidates had trouble with this question. The answer was a verbalization of part a of this question. Many didn't realize this and tried to define fixed and expense rather than stating how reflecting fixed impacted indication.