24. (3 points)

Given the following information:

Accident Year	Selected Ultimate Claims as of December 31, 2011	Actual Reported Claims as of December 31, 2011	Actual Reported Claims as of December 31, 2012
2009	$5,000	$5,000	$5,500
2010	$5,000	$3,333	$5,033
2011	$5,000	$2,500	$4,000

The selected ultimate claims as of December 31, 2011 were determined using the reported development technique.

a. (1.25 points)

For accident years 2009 through 2011, compare actual claim emergence to expected reported claim emergence between December 31, 2011 and December 31, 2012.

b. (0.25 point)

Briefly discuss what change, if any, the actuary should make to the reported claim development factors based on the actual claim emergence as of December 31, 2012.

c. (1.5 points)

For each accident year, justify what changes, if any, the actuary should make to the ultimate claim selections based on the actual claim emergence as of December 31, 2012.

END OF EXAMINATION

Exam 5 – Question #24 (example 1)

A. Implied AA

	12-24	24-36	36-ult.
A-A	1.333	1.5	1
A-U	2	1.5	1

Acc year	Actual Emergence	Exp Emergence	Difference	% Diff
2009	500	0	500	∞
2010	1700	1667	33	1.02
2011	1500	833	667	1.8

B. It appears that 12-24 A-A selection may be too low and 36-ult. Needs to be increased from 1.0 as significant development occurred.

C. 2009: Increase ultimate to 5500 and assume that no more development will occur.
2010: Add in factor for 36-ult of 1.1 to reach new ult. of 5536.
2011: Maintain 24-36 factor and add 36-ult of 1.1 for new ult of (4000*1.5*1.1) = 6600.

Exam 5 – Question #24 (example 2)

A. Selected ult claim/reported as of 12/31/2011

AY	(1) LDF	(2) % unreported in 12/31/2011	(3) % unreported in 12/31/2012	(4) IBNR @ 12/31 /2011	(5) = (4)(2)-(3)(2) Expected Emergence
2009	1	0	0	0	0
2010	1.5	0.33	0	1667	1667
2011	2	0.5	0.333	2500	833.335

AY	Actual Emergence	Difference
2009	500	500
2010	1700	38
2011	1500	666.665

The total difference in the 3 yrs between actual and expected is 1199.665

B. Two changes:
   1. Incorporate a tail factor greater than 1 for ultimate less development.
   2. Increase the 12-24 age to age development factors.

C. AY changes:
   1. 2009 – Higher ultimate claim selection not to assume any further development beyond this point.
   2. 2010 – This year is fairly adequate judging by claim emergence comparisons. However, it may still require a higher selection since issues may still develop after 36 month.
   3. 2011 – This needs a higher selection as we can see that the expected emergence is greatly understated compare to actual.

24.

a. Many candidates received full credit. Credit was given if comparison based on Age-to-Age factors (actual vs expected). Some common mistakes included:

   - Miscalculation of 2010 actual
   - Not offering comparison of actual and expected
   - Calculating 2011 expected emergence incorrectly

b. Slightly more than half of the candidates received full credit on this part. Full credit responses ranged from a simple "increase factors" to a more specific increase for 12-24 and 36-Ult. Other acceptable responses included suggestion to perform a Berquist-Sherman adjustment if warranted by the data and use adjusted data to re-calculate factors. There was no partial credit for this part.

c. Candidates that did not receive full credit were those who either specified a change in the ultimate or justified how to make a change to the ultimate, but not both. Typical full credit response included adjusting the ultimates based on the new reporting pattern. Credit was given for selecting reporting patterns. Credit also given for descriptive responses with no values specified. Some candidates mistakenly used prior reported when developing ultimates.