3. (2.25 points)

For a single personal auto policy with an annual policy term:

- A = Calendar year 2013 written exposures as of December 31, 2013.
- B = Calendar year 2012 earned exposures + calendar year 2013 earned exposures as of February 1, 2013.
- C = Calendar year 2013 unearned exposures as of February 1, 2013.
- D = In-force exposures as of February 1, 2013.
- A < 0 < B < C < D.
- Exposure is earned uniformly throughout the policy term.
- This policy cancels mid-term.

a. (1 point)

Provide the range of valid effective dates for this policy.

b. (0.5 point)

Provide the range of valid dates of the mid-term cancellation for this policy.

c. (0.75 point)

Demonstrate that it would never be possible to have A < 0 < B < C < D if B, C, and D were as of July 1, 2013 instead of February 1, 2013.

EXAM 5 SPRING 2014 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION: 3

TOTAL POINT VALUE: 2.25

LEARNING OBJECTIVE(S): A2

SAMPLE/ACCEPTED ANSWERS:

Part a: 1 point

Sample 1:

Policy is effective in 2012 since A<0. Since C > B and this is an annual term there must be no less than 6 months left in the policy term on 2/1/13. Valid range 8/2/12 – 12/31/12. 8/2/12 was used since C strictly greater than B.

Sample 2:

8/2/2012 – 12/31/2012
Had to be written in 2012 as 2013 written expo negative due to cancel (not just less than 1)
Had to be less than 6 months prior to 2/1/13 as unearned expo > earned at 2/1/13

Sample 3:

More exposure unearned at 2/1/13 than earned before 2/1/13.
Policy Canceled before 12/31/13
Written before 12/31/12
Possible effective dates 8/2/12 – 12/31/12

Part b: 0.5 point

Sample 1:

Must be written no later than Dec 31, 2012 => latest cancellation date = Dec 30, 2013
Inforce at Feb 1, 2013 => earliest cancellation date = Feb 2,2013
So Feb 2, 2013 through Dec 30, 2013

Sample 2:

D>0, C>0, so needs to be cancelled after Feb 1st, 2013.
A<0, so needs to be cancelled by 12/31/2013
Valid cancellation dates = Feb 2nd, 2013 -> December 31st, 2013

Sample 3:

Has to be cancelled after 2/1/2013, but before policy ends and before end of 2013. 2/2/13 – 12/31/13

Part c: 0.75 point

Sample 1:

If B,C,D were as of 7/1/2013 and given the policy was written in 2012 (A<0) and cancelled in 2013 but was still in effect on 7/1/2013 (D>0): then B, total portion of the policy earned as of 7/1/2013 is ≥ 1/2 . In that case, C (portion of policy unearned) cannot be greater than B, since B+C = 1.

Sample 2:

To satisfy D and A under the new conditions, the policy must be written between 7/2/12 and 12/31/12. However this would break the requirement of B<C. Trying to satisfy B<C in this scenario would mean that the policy needs to be written any time after Jan 2nd, 2013 but then that would break the requirement of A<0. Not possible to satisfy the new requirements with what we're given.

Sample 3:

Because of A, the policy has to be written in 2012 and cancelled in 2013. Therefore, by 7/1/13 at least half of the exposures are earned making the statement B<C invalid.

EXAMINER'S REPORT:

General Commentary

Many candidates skipped this question or received little partial credit. Candidates needed a comprehensive understanding of Written, Earned, Unearned and In-Force Exposures. The difficulty in this question lies in the need to quickly comprehend and synthesize the provided information to apply the given restraints to deduce the possible dates.

Part a

Successful candidates were able to identify the pertinent pieces of information to correctly identify the start and end date of the possible range. Often candidates missed vital pieces of information to determine one of the end points of the range. For example, often candidates correctly identified 8/2/12 as the correct begin date of the possible range but failed to interpret that A < 0 limits the range to 12/31/12. A very common error was the failure to correctly interpret the inequality B<C to recognize that 8/2/12 and not 8/1/12 was the correct start date. This mistake was not heavily penalized if candidates demonstrated the correct logic in determining a range.

Part b

Candidates often incorrectly interpreted "mid-term cancellation" to mean the exact mid-point of the policy term causing them to determine 6/30/13 or 7/1/13 as the last possible cancellation date. Many times candidates incorrectly entered 2/1/13 as the beginning of the cancellation range when the question clearly states that the policy is still in-force on 2/1/13.

Part c

This question seemed to be the most challenging to the candidates. The most common mistakes on this part involved a lack of support. For example, candidates would recognize that the policy will be more than 50% earned as of 7/1/13 without mentioning that A<0 constrains the policy effective date to CY 2012.