

EXAM 5, SPRING 2013

1. (2 points)

Given the following information for an insurance company that writes 24-month term policies:

Policy Group	Effective Date	Expiration Date	Number of Vehicles
A	January 1, 2010	December 31, 2011	50
B	July 1, 2010	June 30, 2012	100

All policies within each group have the same effective date.

a. (0.5 point)

Calculate the earned car-years for calendar year 2011.

b. (0.5 point)

Calculate the earned car-years for policy year 2010 evaluated as of December 31, 2010 and as of December 31, 2011.

c. (0.5 point)

Assume Policy Group B cancels on January 1, 2011. Calculate the 2010 policy year written car-years evaluated as of December 31, 2010 and as of December 31, 2011 for Policy Group B.

d. (0.5 point)

Assume Policy Group B cancels on July 1, 2011. Calculate the 2010 and 2011 calendar year written car-years for Policy Group B.

Exam 5 Question #1

1. a. For CY2011, A Earned $\frac{1}{2}$ exposures = $50 \times 2 \times \frac{1}{2} = 50$
B also earns $\frac{1}{2}$ exposures = $100 \times 2 \times \frac{1}{2} = 100$
CY2011 Earned Exposures = $50 + 100 = 150$
- b. Evaluated as of 12/31/2010
A earned = $50 \times 2 \times \frac{1}{2} = 50$
B earned = $100 \times 2 \times \frac{1}{4} = 50$
Total earned exposures = $50 + 50 = 100$

Evaluated as of 12/31/2011
A earned $50 \times 2 = 100$
B earned $100 \times 2 \times \frac{3}{4} = 150$
Total earned exposures = $100 + 150 = 250$
- c. Evaluated as of 12/31/2010
B written exposures = $100 \times 2 = 200$

Evaluated as of 12/31/2011
B written exposures = $100 \times 2 - 100 \times 2 \times \frac{3}{4} = 50$
- d. CY2010 B written exposures = $100 \times 2 = 200$
CY2011 B written exposures = $-100 \times 2 \times \frac{1}{2} = -100$

**Exam 5 Examiner's Report
Spring 2013**

1.

- a. Most candidates answered this question correctly. A small number of candidates misread the problem and assumed that the provided vehicle counts were actually the exposures over the two year period, which caused the answer to be halved.
- b. Most candidates answered this question correctly. A small number of candidates misread the problem and assumed that the provided vehicle counts were actually the exposures over the two year period, which caused the answer to be halved. A few others calculated only the earned car-years for one of the evaluation dates requested.
- c. Candidates generally answered this answer correctly. A small number of candidates misread the problem and assumed that the provided vehicle counts were actually the exposures over the two year period, which caused the answer to be halved. Some candidates also provided the combined values for both Policy A & B instead of just policy B. Full credit was given to candidates that clearly identified the portion attributable to Policy B. A few others calculated only the written car-years for one of the evaluation dates requested.
- d. Candidates generally answered this answer correctly. A small number of candidates misread the problem and assumed that the provided vehicle counts were actually the exposures over the two year period, which caused the answer to be halved. Some candidates also provided the combined values for both Policy A & B instead of just policy B. Full credit was given to candidates that clearly identified the portion attributable to Policy B. A few others calculated only the written car-years for one of the calendar years requested.

There were also some candidates who weren't familiar with the concept of having negative calendar year counts in cases where a multiple-year policy was cancelled in a subsequent year. These candidates often got the 2010 value correct, but would either answer the 2011 value as 0 or 100.

2.

- a. In general candidates scored well. Some of the common errors were:
 - -1% trend (not annual)
 - Wrong trend period
 - 8.5% or 8.9% trend (using total WP or WP over EP)
 - Apply trend to WP
 - Calculating EP from WP instead of projecting the given EP