20. (2 points)

Given the following information:

Accident Year	Earned Premium	On-Level Adjustment	Reported Claims	Pure Premium Trend Factors	Tort Reform Factors	Reported CDF to Ultimate
2010	$50,000	0.900	$25,000	1.061	0.750	1.250
2011	$52,000	0.950	$20,000	1.030	0.900	1.750
2012	$54,000	1.000	$10,000	1.000	1.000	2.500

Using the Cape Cod technique, estimate the IBNR for accident year 2011.

CONTINUED ON NEXT PAGE

Exam 5 – Question #20

Re-state to AY 2011 level

AY	GP	On-level adj	On-level GP	Used up prem
2010	50	0.9474	47.368	37.894
2011	52	1	52	29.714
2012	54	1.0526	56.84	22.736

AY	Reported	Trend	Tort	Adj reported
2010	25	1.03	0.833	21.449
2011	20	1	1	20
2012	10	0.9709	1.111	10.787
				52.287

ECR = 52.87/(37.814 + 29.714 + 22.736) = 0.5787

IBNR = 52000 x 0.5787(1 – 1/1.75) = 52000 x 0.248 = 12896.7

19.

Candidates did not do well on this question, often providing insufficient detail to receive full credit.

a. Many candidates did mention that the ultimate losses would increase. However, a common mistake was not to explain appropriately how this would lead to higher ALAE (it is the application of the historical paid to paid ratio to the overstated ultimate that produces the overstated ALAE result). Another common error was to focus just on the paid to paid ratio, but neglect that the paid ultimate is going to be significantly higher.

b. Most candidates did not receive credit for this part.

c. This part was generally answered quite well. The most common error was to indicate that the ultimate losses/ pure premium increased, but not mention anything about the rates themselves increasing.

d. This was also answered quite well. A common error was a lack of detail, with credit lost if candidates did not mention the fact that the retention was exceeded or that the limit had not yet been reached.

20.

Candidates were able to handle the basic component of the Cape Cod method but struggled with the adjustments. Some common mistakes were:

- Forgot to adjust the estimated claim ratio to bring it to the 2011 level.
- Used the reported CDF to ultimate factor to adjust the reported claims to ultimate, which produces the same yearly adjusted ECRs but causes an error in the volume weighting in the total.
- Not utilizing the concept of used-up premium which is central to this method.
- Candidates misapplied the pure premium trend and tort reform factors to the earned premium instead of the claims or didn't apply them at all.
- Providing expected ultimate claims as the answer instead of IBNR or provided IBNR for an accident year other than 2011.
- Not calculating IBNR by applying the unreported percentage to the expected ultimate claims. The typical error was subtracting the reported claims or adjusted claims from the expected ultimate claims instead.

21.

Most candidates correctly calculated the disposal rate as well as implementing the LDF method (link ratios, selecting LDFs, calculating CDF, and applying it to the appropriate paid dollars). Candidates had trouble with interpolating for age 12, while many candidates realized that ages 24-48 did not need to be adjusted. The most common errors were:

- Incorrectly interpolating age 12.
- Calculating incremental paids and adding periods together to get to the ultimate.