17. (2 points)

Given the following information for an insurance company as of December 31, 2016:

Accident Year	Cumulative Reported Claims ($000) as of (months)		
	12	24	36
2014	68,600	87,800	100,000
2015	72,800	91,500	
2016	55,900		

Accident Year	Cumulative Reported Claim Counts as of (months)		
	12	24	36
2014	80	95	100
2015	85	99	
2016	87		

- There is no development after 36 months for reported claims or reported claim counts.
- A new law limiting claimant benefits came into effect on January 1, 2016 and is applicable to accidents occurring on or after January 1, 2016. The expected impact is a 25% reduction in claim severity.
- There is no loss trend.

Estimate ultimate claims for accident year 2016 as of December 31, 2016 using a frequency-severity technique.

QUESTION 17	
TOTAL POINT VALUE: 2	**LEARNING OBJECTIVE(S): B3**
SAMPLE ANSWERS	

Sample 1

cumulative rptd cnts

	12:24	24:36	36:ult
2014	1.1875	1.0526	
2015	1.1647		
Straight Avg	1.1761	1.0526	1.0000

rptd clms brought to current

	12	24	36	
2014	51450	65850	75000	75000 = 100000x0.75
2015	54600	68625		
2016	55900			

severity = adj claims / rptd cnts

	12	24	36
2014	643.13	693.16	750.00
2015	642.35	693.18	
2016	642.53		

severity dev

	12:24	24:36	36:ult
2014	1.078	1.082	
2015	1.079		
Straight Avg	1.078	1.082	1.000

Ult Cnts	= 87 x 1.1761 x 1.0526 = 107.7
Ult Sev	= 642.53 x 1.078 x 1.082 = 749.8
Ult Claims	= 107.7 x 749.8 = 80753

Sample 2

cumulative rptd cnts

	12:24	24:36	36:ult
2014	1.1875	1.0526	
2015	1.1647		
Straight Avg	1.1761	1.0526	1.0000

severity = rptd claims / rptd cnts

	12	24	36

2014	857.50	924.21	1000.00
2015	856.47	924.24	
2016	642.53		

	severity dev		
	12:24	24:36	36:ult
2014	1.078	1.082	
2015	1.079		
Straight Avg	1.078	1.082	1.000

Ult Cnts	= 87 x 1.1761 x 1.0526 = 107.7
Ult Sev	= 642.53 x 1.078 x 1.082 = 749.8
Ult Claims	= 107.7 x 749.8 = 80753

Sample 3

We assume no impact to reporting
patterns

	Rpt Ct LDFs	
AY	12-24	24-36
2014	1.188	1.053
2015	1.165	
Avg	1.176	1.053
Age to Ult	1.238	1.053

AY 2016 Ult Counts = 1.238 x 87 = 107.7

	Inc Rpt		
AY	12	24	36
2014	68600	19200	12200
2015	72800	18700	

	Inc Rpt		
AY	12	24	36
2014	80	15	5
2015	85	14	

	Inc Sev		
AY	12	24	36
2014	857.5	1280.0	2440.0
2015	856.5	1335.7	

	No loss trend		
	Restate Inc Sev @ 75%		
	12	24	36
2014	643	960	1830
2015	642	1002	
Avg	643	981	1830

AY 2016 12-24 Cnts = 87 x 0.176 = 15.3

AY 2016 24-36 Cnts = (87 +15.3) x 0.053 = 5.4

Ult Claims = 55900 + 15.3 x 981 + 5.4 x 1830 = 80790

EXAMINER'S REPORT

Candidates were expected to perform a frequency-severity method, separately developing claim counts and severity to ultimate to determine the ultimate loss, or performing the incremental method.

Common errors included:
- Mistreatment of the 25% reduction in claim severity, including:
  - Assuming the adjustment was based on report date.
  - Applying the adjustment to the latest accident year.
  - Dividing by 1.25 rather than multiplying by .75.
- Averaging ultimate counts by year for an ultimate count selection.
- Calculating ultimate reported claims using a loss development method, and then using this result to calculate ultimate severity based on developed counts.
- Attempting an incremental method but not using incremental severities in the calculation.