21. (2.75 points)

Given the following:

Reported Claims ($000) as of (months)				
Accident Year	12	24	36	48
2015	1,100	1,650	1,675	1,680
2016	1,250	1,680	1,750	
2017	1,200	1,800		
2018	1,500			

Reported Claim Counts as of (months)				
Accident Year	12	24	36	48
2015	108	115	115	115
2016	112	120	120	
2017	104	110		
2018	106			

Paid Claims ($000) as of (months)				
Accident Year	12	24	36	48
2015	560	1,325	1,650	1,680
2016	650	1,350	1,720	
2017	615	1,305		
2018	625			

Closed Claim Counts as of (months)				
Accident Year	12	24	36	48
2015	78	106	114	115
2016	80	111	118	
2017	75	99		
2018	82			

5.0%	Annual severity trend

- Exposures have remained constant throughout all accident years.

Calculate unpaid claims for accident year 2018 using the reported Berquist-Sherman technique.

QUESTION 21				
TOTAL POINT VALUE: 2.75		**LEARNING OBJECTIVE(S): B5**		
SAMPLE ANSWERS				

Case outstanding

Accident Year	12	24	36	48
2015	540	325	25	0
2016	600	330	30	
2017	585	495		
2018	875			

Open claim counts

Accident Year	12	24	36	48
2015	30	9	1	0
2016	32	9	2	
2017	29	11		
2018	24			

Average case OS

Accident Year	12	24	36	48
2015	18.0	36.1	25.0	
2016	18.8	36.7	15.0	
2017	20.2	45.0		
2018	36.5			

Detrended average case OS

Accident Year	12	24	36	48
2015	31.5	40.8	14.3	0.0
2016	33.1	42.9	15.0	
2017	34.7	45.0		
2018	36.5			

Adjusted case OS = detrended / open

Accident Year	12	24	36	48
2015	945	367	14	0
2016	1,058	386	30	
2017	1,007	495		
2018	875			

Adjusted incurred loss = paid + adj OS

Accident Year	12	24	36	48
2015	1,505	1,692	1,664	1,680
2016	1,708	1,736	1,750	
2017	1,622	1,800		
2018	1,500			

Age-to-age

Accident Year	12	24	36	48
2015	1.125	0.983	1.009	
2016	1.016	1.008		
2017	1.110			
2018				

Sample 1

	12	24	36
Straight Average	1.084	0.996	1.009
A-U	1.089	1.005	1.009

	Incurred	A-U	Ult	Paid	Unpaid
2018	1,500	1.089	1633.7	625	1,009

Sample 2

	12	24	36
Weighted Average	1.081	0.996	1.009
A-U	1.087	1.005	1.009

	Incurred	A-U	Ult	Paid	Unpaid
2018	1,500	1.087	1630.7	625	1,006

EXAMINER'S REPORT

Candidates were expected to know the steps required to adjust the average case outstanding triangle in the reported Berquist-Sherman technique and calculate an estimated unpaid amount after adjusting the reported triangle for changes in case outstanding adequacy.

Candidates were not required to write out full triangles as long as the candidate demonstrated understanding of how to de-trend the average case outstanding triangle and create an adjusted reported triangle using those results.

Common mistakes included:
- Calculating the estimated ultimate, but not subtracting the 2018 paid amount to derive an unpaid estimate.
- Calculation errors in creating the adjusted reported loss triangle after de-trending the average case outstanding triangle.