15. (2.25 points)

Given the following information as of December 31, 2016:

Accident Year	Cumulative Paid Claims ($000) as of (months)		
	12	24	36
2014	1,150	2,250	3,000
2015	1,250	2,400	
2016	1,550		

Accident Year	Cumulative Reported Claims ($000) as of (months)		
	12	24	36
2014	5,150	7,200	8,000
2015	4,800	6,700	
2016	4,750		

Accident Year	Cumulative Reported Claim Counts as of (months)		
	12	24	36
2014	102	107	108
2015	96	101	
2016	99		

Accident Year	Open Claim Counts as of (months)		
	12	24	36
2014	52	28	12
2015	46	25	
2016	42		

- Reported claim counts exclude claims closed without payment.
- Historical claim cost inflation is 0%.

a. (0.75 point)

Calculate the paid to reported claim ratio triangle and briefly describe what it suggests about changes in:

i. Settlement rates
ii. Case reserve adequacy

b. (1.5 points)

Calculate the closed to reported claim count ratio triangle and the average case outstanding triangle and briefly describe what the triangles suggest about changes in:

i. Settlement rates
ii. Case reserve adequacy

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QUESTION 15	
TOTAL POINT VALUE: 2.25	**LEARNING OBJECTIVE(S): B2**

SAMPLE ANSWERS

Part a: 0.75 point

Sample 1:

Paid to Rpt Claim Ratio

AY	12	24	36
2014	22%	31%	38%
2015	26%	36%	
2016	33%		

- It is possible that settlement rates are increasing as the triangle is increasing down the columns.
- It is possible that case reserve adequacy is decreasing as the ratios in the triangle are increasing down the columns.

Sample 2:

Paid to Rpt Claim Ratio

AY	12	24	36
2014	22%	31%	38%
2015	26%	36%	
2016	33%		

- There could be a speed-up in settlement rates as paid is a higher percentage of reported than it has been historically in most recent diagonal.
- There may be a deterioration of reserve adequacy or change in reserving philosophy as paid to reported ratio has been increasing down each column.

Part b: 1.5 points

Sample 1:

Closed to Rpt Claim Count Ratio

AY	12	24	36
2014	49%	74%	89%
2015	52%	75%	
2016	58%		

Average Case Outstanding Triangle

AY	12	24	36
2014	77	177	417
2015	77	172	
2016	76		

- The closed to reported claim count triangle is increasing down the columns. So, it seems a speedup in settlement has occurred.
- There may have been a slight deterioration in case reserve adequacy in calendar year 2016 since the last diagonal is lower than the previous diagonals.

Sample Answer 2:

Closed to Rpt Claim Count Ratio

AY	12	24	36
2014	49%	74%	89%
2015	52%	75%	
2016	58%		

Average Case Outstanding Triangle

AY	12	24	36
2014	77	177	417
2015	77	172	
2016	76		

- The closed to reported counts triangle would indicate a speedup in settlement rates.
- The average case triangle indicates no change to reserve adequacy. The small decrease in most recent diagonal could just be randomness.

EXAMINER'S REPORT

Candidates were expected to calculate three different diagnostic triangles and draw inferences based on those diagnostic tests.

Part a

Candidates were expected to compute a paid to reported claim ratio triangle and draw correct inferences on possible changes in settlement rates or case reserve adequacy.

Common errors included:

- Interpreting the diagnostic triangle by going "across the rows" instead of "down the columns".
- Stating that no inferences could be drawn from the diagnostic tests.

Part b

Candidates were expected to compute a closed to reported claim count ratio triangle and an average case outstanding triangle. Candidates were expected to draw an inference on settlement rate changes from the closed to reported claim count ratio triangle and an inference on case reserve adequacy from the average case outstanding triangle.

Common errors included:

- Interpreting the diagnostic triangle by going "across the rows" instead of "down the columns".
- Stating that no inferences could be drawn from the diagnostic tests.
- Calculating average reported claims rather than average case outstanding.