

1. (1.75 points)

Given the following quarterly exposure information:

Calendar Year and Quarter	Written Exposures	Earned Exposures
2017 Q 1	100	5.00
2017 Q 2	450	247.50
2017 Q 3	400	427.50
2017 Q 4	100	52.50
2018 Q 1	125	53.75
2018 Q 2	550	528.75
2018 Q 3	475	562.50
2018 Q 4	30	59.00

- The company started writing business on January 1, 2017.
- The company stops writing business on December 31, 2018.
- The quarterly earnings pattern was set by analyzing historical experience across the industry and is not uniform.
- All policies are annual.
- All policies are written on the first day of the quarter.
- There are no policy cancellations and no mid-term adjustments.

a. (0.5 point)

Calculate the 2017 policy year earned exposures as of March 31, 2018.

b. (0.25 point)

Calculate the in-force exposures as of May 31, 2018.

c. (0.5 point)

Calculate the calendar year 2018 unearned exposures.

d. (0.5 point)

Calculate the calendar year 2019 quarter 1 earned exposures.

FALL 2019 EXAM 5 – SAMPLE ANSWERS AND EXAMINER’S REPORT

QUESTION 1	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE(S): A1
SAMPLE ANSWERS	
Part a: 0.5 point	
<u>Sample 1</u> $5 + 247.7 + 427.5 + 52.5 + 53.75 - .05 * 125 = 780$	
<u>Sample 2</u> $100 * 1.0 + 450 * 1.0 + 400 * 0.55 + 100 * 0.1 = 780$	
Part b: 0.25 point	
$400 + 100 + 125 + 550 = 1175$	
Part c: 0.5 point	
<u>Sample 1</u> $2230 - 1936.5 = 293.5$	
<u>Sample 2</u> $550 * .05 + 475 * 0.5 + 30 * 0.95 = 293.5$	
<u>Sample 3</u> $317.5 - 24 = 293.5$	
Part d: 0.5 point	
$(550 + 475 + 30) * 0.05 = 52.75$	
EXAMINER’S REPORT	
<p>Candidates were expected to demonstrate knowledge of the determination and relationships among written, earned, and in-force exposures. Candidates were expected to determine the earning pattern based on quarterly written and earned exposures, which was provided. The exposures were not earned evenly, and candidates struggled with determining the earning pattern. Many candidates incorrectly assumed an even earning pattern and proceeded with the calculation on that basis.</p>	
Part a	
<p>Candidates were expected to determine the earned exposures for policy year 2017 as of the end of the Q1 2018. The earning pattern was not uniform, so the candidate needed to recognize the amount earned in Q1 to get the correct answer.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"> • Calculating an incorrect earnings pattern. • Assuming an even earning pattern instead of the actual pattern. 	
Part b	
<p>Candidates were expected to calculate the in-force exposure based on the written exposures provided.</p> <p>A common mistake was adding the incorrect quarters together.</p>	
Part c	
<p>Candidates were expected to calculate the calendar year 2018 unearned exposures.</p>	

FALL 2019 EXAM 5 – SAMPLE ANSWERS AND EXAMINER’S REPORT

Common mistakes included:

- Assuming a uniform earning pattern.
- Not accounting for the unearned written exposures from 2017.
- Applying the earning pattern to the earned exposures instead of the written exposures.

Part d

Candidates were expected to calculate the earned exposures for the quarter subsequent to the end of written exposures. The candidates were expected to use the correct earnings pattern.

Common mistakes included:

- Using an even earnings pattern.
- Using the incorrect exposures (i.e. unearned exposures instead of in-force exposures) as the basis for calculating the earned in Q1.