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Welcome to the CAS Answering and Grading Insights video, your inside look at how to approach and answer items using exam content and how they are graded.

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This is a joint project between the Candidate Advocate Working Group and Admissions.

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In this video, we'll walk step-by-step through a multiple-choice item from the Fall 2024 sitting of Exam 5.

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These items are now retired and will not be tested moving forward.

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You'll see how a candidate might approach their response and then hear directly from a grader on how a response will be evaluated.

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Each video will break down key elements of a strong response, common mistakes to avoid, and how points are awarded, giving you the knowledge to refine your exam strategy and improve your performance.

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In this video, we begin with the candidate introducing the sample exam question.

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You will then observe the candidate's approach to solving the problem as if they were sitting for the actual exam.

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Following this, a grader will provide insights into how the response would be evaluated and scored.

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An accompanying Excel workbook is provided to follow along with the problem yourself.

00:01:03

Timestamps have been included for ease of navigation between sections, and a full transcript is also available for reference.

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Let's get started.

00:01:18

I'll be acting as the candidate for this and going through this item like a candidate would.

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So for this question, one total point given the following information.

00:01:31

Effective date October 1st, 2021, minus 5% rate change.

00:01:36

October 1st, 2022, a 10% rate change.

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October 1st, 2023, a negative 3% rate change.

00:01:44

A law change mandated a rate decrease of 15% applicable to all in-force policies effective July 1st, 2023 for the remainder of each policy's term.

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All policies are annual and policies are written uniformly throughout the year.

00:02:02

Calculate the on-level factor to current rate level for calendar year 2023 earned premium and select the range it is within.

00:02:11

All right, so I'm going to open the scratch pad now.

00:02:15

And first I'm just going to bring over some of the information so that I can do some calculations.

00:02:20

So the different rate changes were October 1st, 2021 minus 5%, October 1st, 2022 plus 10%,

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And October 1st.

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2023.

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Minus 3%.

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And I'm going to calculate a rate index from that.

00:03:13

And I'm also going to add the rate change.

00:03:18

For July 1st, 2023.

00:03:23

which is on all earned premium after July 1st, 2023 of 15% minus 15%.

00:03:31

I just picked up a mistake that I made.

00:03:49

I'm going to fix that.

00:03:55

OK.

00:03:58

All right.

00:04:00

From this question, I think I need to do a parallelogram method.

00:04:04

So on my scratch paper off to the side, I'm going to draw an image.

00:04:11

So what I'm doing is I am drawing a timeline and I'm going to create some parallelograms here.

00:04:20

The first section is for October 1st, 2021 to October 1st, 2022.

00:04:28

And that's the period where all of the written policies have a minus 5% rate change.

00:04:36

The second parallelogram is from October 1st, 2022 to October 1st, 2023.

00:04:45

And that's the period when the written policies had a plus 10% rate change.

00:04:51

And then the third section is from October 1st, 2023 onwards.

00:04:57

when there was a minus 3% rate change on all written policies written.

00:05:04

Then I'm going to draw a square within that.

00:05:10

That period is calendar year 2023.

00:05:13

So from January 1st, '23 to January 1st, 2024.

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And within that, so that's the period of that I wanna calculate the on level factor

00:05:26

for is calendar year 2023.

00:05:29

And then within that, I'm gonna break that box down into different sections that have different rate levels based on all of the changes that were described in this question.

00:05:49

So section one, I'll call it rate group one.

00:06:00

Has a rate level that includes just the 5% rate increase.

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So I'm just gonna pull in the rate index here for that period.

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Section 2 has the 5% rate increase and.

00:06:21

Or sorry, 5% rate decrease and the 15% rate decrease on all enforce policies.

00:06:28

So I'm going to multiply those two together.

00:06:37

Section 3.

00:06:39

Has the 5% rate increase decrease the 10% rate increase and that's it.

00:06:47

So I'll multiply those two together.

00:06:54

Section 4.

00:06:57

has the 5% rate increase, rate decrease, the 10% rate increase, and the 15% rate decrease on all in-force policies.

00:07:18

And then the last section, section 5, has all of the rate changes included.

00:07:48

Now I need to calculate.

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So this is the rate index for all of those different periods of time.

00:07:53

Now I need to calculate the weights for each of those different segments of my calendar year and weight them together to get an average rate index for that period.

00:08:07

And I'm gonna use the area of a triangle.

00:08:16

Is one half the base times the height.

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And the base is the written percent of the year that's written and the the height is the percent of the year that's earned.

00:08:35

And I'm going to start with the two sections that are actually triangle shaped.

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So sections two and five section 2.

00:08:46

is the period that is written policies from July 1st, 2022 to October 1st, 2022 and the earned portion of that from July 1st, 2023 to October 1st, 2023.

00:09:04

So it's a quarter of a year written policies and a quarter of a year of earned policies.

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So I'm going to do 1/2 times

00:09:14

the base times the height.

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And then Section 5 is the same size, I think.

00:09:24

So it's the period that's written policies from October 1st, 23 to January 1st, 2024, and just the period that's earned in that same time.

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So it's also one half times the base times the height.

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And so now that I have sections 2 and Section 5, I can figure out Section 4 because that's just a rectangle.

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It's half of the earned period is in Section 4.

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So half of the earned period is sections 2, 4, and five combined.

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So Section 4 is just half minus those two pieces.

00:10:17

Next, I'm going to do section one.

00:10:22

If you combine sections one and two, you get a bigger triangle.

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So I'm going to calculate the area of that triangle and then subtract the piece that's in Section 2.

00:10:32

And this section one is policies written from January 2022 to October 2020.

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Two sections one and two is that combined and.

00:10:48

Earned from January 23 to October 2023.

00:10:57

So.

00:11:00

That is.

00:11:02

3/4 of a year.

00:11:05

Written and 3/4 of a year earned.

00:11:08

So the big triangle is 1/2 times.

00:11:12

.75 \* .75 and then I have to subtract.

00:11:17

The small piece that's.

00:11:19

Piece 2.

00:11:22

Now I can do section 3, which is if I look at one and three combined, that's half of the calendar year.

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So I'm just gonna take out section one from that from half.

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OK, now I have all of my weights.

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And I'm going to do.

00:11:54

A weighted average.

00:12:03

Of the rate index.

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So that's the average rate level for calendar year.

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2023.

00:12:19

And then the current rate index.

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Is just the product of all of the past rate changes.

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And then the on level factor.

00:12:45

Is the current rate index divided by the average rate index for that year.

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So I ended up with .775, but that answer.

00:13:02

Isn't shown in any of the ranges here, so I probably have a mistake.

00:13:11

And I'm just going to look through some of my calculations.

00:13:24

OK, I I think I I meant to do a subtraction here.

00:13:38

Still not quite right.

00:13:39

All right, let me check these rate changes minus 5%, 10%.

00:13:56

OK, here minus 3%.

00:14:10

OK, now the answer that I got is .917.

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which looks like it is within the ranges that are given to me.

00:14:18

So I'm gonna select answer B for this question.

00:14:33

Hi, I will be acting as the grader and we'll now walk through how this item would be graded.

00:14:41

However, this is a multiple choice question, which means it's either right or wrong, right?

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So in this case, they got the answer correct.

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The answer is .917 ish.

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So the correct answer is B, they would be awarded the full point.

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And they did a good job going back through and finding their mistakes.

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Definitely something to take into consideration with multiple choice questions.

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If you get any answer that isn't any of the options, it's always good to go back and check your work and make sure that you got it correct.