

11. (2.5 points)

An underwriter and an actuary are discussing the effectiveness of the current experience rating plan. The following table contains experience from five experience rated risks (all of similar size):

Risk	Manual Premium	Modified Premium	Actual Losses
1	400,000	360,000	300,000
2	600,000	840,000	690,000
3	800,000	560,000	440,000
4	900,000	1,080,000	860,000
5	1,000,000	800,000	650,000

a. (1.5 points)

Evaluate whether the experience rating plan is effective or not and explain why.

b. (1 point)

The underwriter argues that the modification factor for risk 4 is too high. Propose two additional pieces of information the actuary could request regarding risk 4 in order to support or disprove the underwriter's argument and explain why the information would be useful.

**QUESTION 11****Total Point Value: 2.50****Learning Objective: B4b****Sample Answers****Part a:** 1.50 points*Sample 1*

<i>Risk</i>	<i>Mod</i>	<i>Manual LR</i>	<i>Modified LR</i>
<b>1</b>	.9	75%	83.3%
<b>2</b>	1.4	115%	82.14%
<b>3</b>	.7	55%	78.6%
<b>4</b>	1.2	95.6%	79.63%
<b>5</b>	.8	115%	81.25%

<i>Risk</i>	<i>Mod</i>	<i>Manual LR</i>	<i>Modified LR</i>
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<b>4</b>	1.2	95.6%	79.63%
<b>2</b>	1.4	115%	82.14%

There is good dispersion in the manual loss ratios as the mod increases so the plan is good at identifying risks. There is no clear trend in the standard loss ratios so the plan is good in correcting differences. Overall, the plan is effective.

**Part b:** 1.00 points*Sample 1*

I would want risk and class characteristics as this would indicate if the mod was correcting for a poor class fit. I would want the risk's loss history as this would indicate if a random large loss (or a few) is driving the high mod.

*Sample 2*

Prior loss history that goes into the experience mod. It is possible that risk 4 had one large, random loss that is increasing its mod but isn't actually predictive of future losses. May want to limit large losses if this is the case.

## EXAM 8 FALL 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

Recent changes to risk 4 that could impact losses. For example, if risk 4 just implemented a new return to work program the future losses would be expected to be lower than the experience suggests.

### **Examiners Report**

#### **Part a:**

Overall, candidates scored well on this subpart and successfully calculated the mods, manual loss ratios and modified loss ratios. Most candidates were also able to use the calculated values to conclude that the experience rating plan was effective. Comments on the manual loss ratio trends and the lack of trends in the modified loss ratios were required for full credit.

#### **Part b:**

Candidates performed well on this subpart although not as well as they did on part a. To obtain full credit, candidates needed to successfully identify two *separate* pieces of information and explain its impact on the mod.