

RMS CCRA® Training Program Financial Modeling Assessment Quiz

ANSWER KEY – QUESTION 10

Given the following location coverage values, mean damage ratios and insurance structures:

Location Coverage Information				
Coverage	Value	MDR	Limit	Deductible
Building	\$15,000	40%	\$15,000	10%
Contents	\$7,500	100%	\$500	5%

And the following policy level insurance structure:

Policy Information			
Limit	Part of	Excess Of	Deductible
\$3,000	\$6,000	\$2,000	\$1,000

Calculate the policy level gross loss using the expected mode methodology.

Answer: \$1,500

The following formulas are used to calculate ground-up, client, and gross losses:

*Ground-Up Loss = Mean Damage Ratio * Coverage Value*

Client Loss = Min (Ground-Up Loss, Deductible)

Gross Loss = Min (Limit, Ground-Up Loss – Deductible)

Step 1: Calculate Ground-Up Losses

*Building Ground-Up Loss = \$15,000 * 40% = \$6,000*

*Contents Ground-Up Loss = \$7,500 * 100% = \$7,500*

Total Ground-Up Losses = \$6,000 + \$7,500 = \$13,500

Step 2: Calculate Client Losses

Step 2a: Calculate Coverage Client Losses

*Building Client Loss = Min (\$6,000, \$15,000 * 10%) = \$1,500*

*Contents Client Loss = Min (\$7,500, \$7,500 * 5%) = \$375*

Location Client Loss = \$1,500 + \$375 = \$1,875

Step 2b: Calculate Policy Level Client Losses

Policy Client Loss = Min (\$13,500, \$1,000) = \$1,000

Step 2c: Compare translated Location Client Loss vs. Policy Client Losses and choose the larger one.

*Effective policy deductible (i.e. Policy Client Loss) = max (Location Client Loss, Policy Client Loss)
= Max (\$1,875, \$1,000) = \$1,875*

Note: Since the location coverage client loss is greater than the policy client loss, the location coverage client loss of \$1,875 will be used as the starting point to compute the policy level gross losses. If the policy client loss was greater, the policy deductible would be used instead.

Step 3: Calculate Gross LossesStep 3a: Calculate Coverage Gross Losses

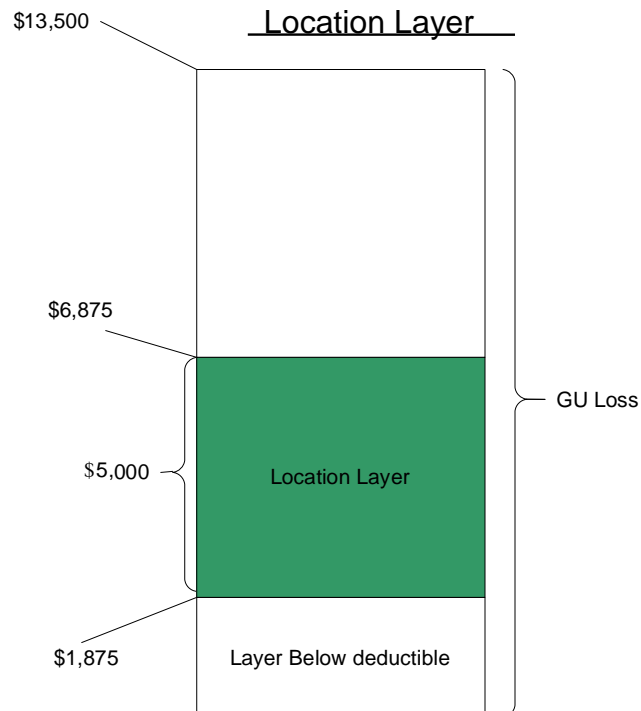
Building Gross Loss = $\text{Min} (\$15,000, \$6,000 - \$1,500) = \$4,500$

Contents Gross Loss = $\text{Min} (\$500, \$7,500 - \$375) = \500

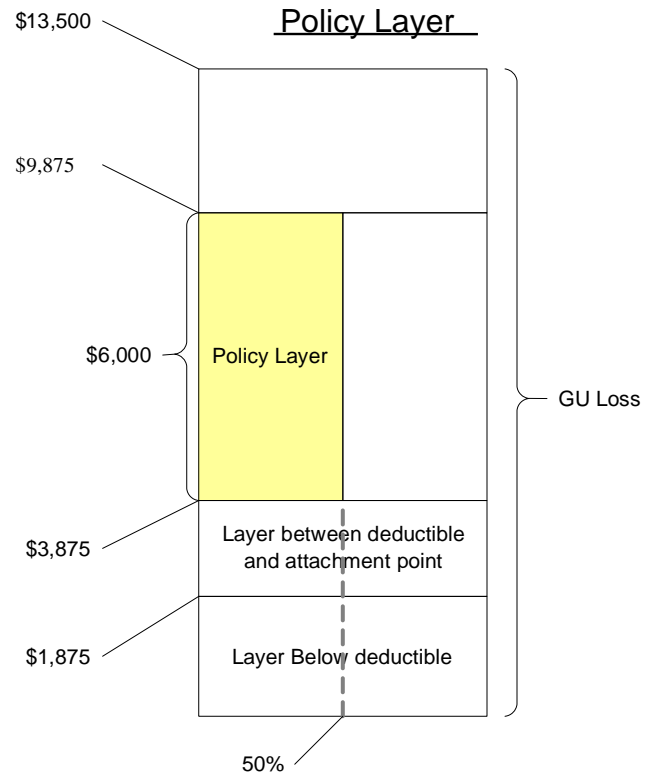
Location Gross Loss = $\$4,500 + \$500 = \$5,000$

Step 3b: Calculate Policy Level Gross Losses

Step 3b.1: Location: Place a location layer whose height is defined by the gross losses calculated in Step 3a (\$5,000) on top of the deductible selected in step 2c (\$1,875). See financial block figure below:



Step 3b.2: Policy: Place a policy layer whose height is defined by the policy attachment point (\$2,000), limit (\$3,000) and part of (\$6,000) on top of the deductible select in step 2c (\$1,875). See financial block figure on the following page:



Step 3b.3: The policy level gross loss will be represented by the area of the overlap between the two layers outlined in Steps 3b.1 and 3b.2. As shown in the following diagram, the final policy level gross loss is equal to \$1,500.

