

Question #96

Answer: E

Let L = incurred losses; P = earned premium = 800,000

$$\text{Bonus} = 0.15 \times \left(0.60 - \frac{L}{P} \right) \times P \text{ if positive}$$

$$= 0.15 \times (0.60P - L) \text{ if positive}$$

$$= 0.15 \times (480,000 - L) \text{ if positive}$$

$$= 0.15 \times (480,000 - (L \wedge 480,000))$$

$$E(\text{Bonus}) = 0.15 (480,000 - E(L \wedge 480,000))$$

From Appendix A.2.3.1

$$= 0.15 \{ 480,000 - [500,000 \times (1 - (500,000 / (480,000 + 500,000)))] \}$$

$$= 35,265$$