

**On May 18, 2015, the SOA announced:**

The June syllabus has been changed in that the **Anderson-Darling test has been dropped.**

**Thus in my practice exams, the following questions are no longer on the syllabus:**

**#2 Q.9, #16 Q.8, #18 Q.35.**

In #14 Q.12, remove the reference to the Anderson-Darling test, but otherwise the question is still okay.

**Exam 5, solution 16:**  $\text{StdDev}[X] / E[X] = 5. \Rightarrow \text{StdDev}[X] = (5)(2\theta) = 10\theta.$

$$\text{Var}[\hat{\theta}] = \text{Var}[k X] = k^2 \text{Var}[X] = k^2 (10\theta)^2 = \mathbf{100} k^2 \theta^2.$$

$\text{MSE} = \text{Var} + \text{Bias}^2.$  We are given that in this case:  $\text{MSE}_{\hat{\theta}}(\theta) = 5 \text{ bias}_{\hat{\theta}}(\theta)^2.$

$$\Rightarrow \text{Var}[\hat{\theta}] = 4 \text{ Bias}^2.$$

$$\Rightarrow 100 k^2 \theta^2 = (4)\{\theta(2k - 1)\}^2. \Rightarrow 25k^2 = 4k^2 - 4k + 1 = 0. \Rightarrow 21k^2 + 4k - 1 = 0.$$

$$\Rightarrow k = \frac{-4 \pm \sqrt{4^2 - (4)(21)(-1)}}{(2)(21)} = \frac{-2 \pm 5}{21}.$$

Since we are told that  $k > 0$ ,  $k = 3/21 = \mathbf{0.143}.$

**Exam 10, solution 3:**  $\pi(\beta) = \frac{4!}{2! 1!} (4\alpha)^2 (1 - 4\alpha)^{2-1} / \alpha = \mathbf{192}(\alpha^2 - 4\alpha^3), 0 < \alpha < 1/4.$

Final solution is OK.

**Exam 10, solution 5:**  $(1.960/0.1)^2 (\mathbf{0.1219} / \mathbf{0.09} + 7.070 \text{ million} / 1222^2) = 2339 \text{ claims}.$

Thus the standard for full credibility in terms of exposures is:

$$2339 / \mu_{\text{freq}} = 2339 / 0.090 = \mathbf{25,989 \text{ exposures}}.$$

This is choice **B**.