

**Question #287****Key: D**

We have the following table:

Item	Dist	$E( )$	$Var( )$
Number claims	$NB(16, 6)$	$16 \times 6 = 96$	$16 \times 6 \times 7 = 672$
Claims amounts	$U(0, 8)$	$8/2 = 4$	$8^2/12 = 5.33$
Aggregate		$4 \times 96 = 384$	$96 \times 5.33 + 672 \times 4^2 = 11,264$

$$\begin{aligned} \text{Premium} &= E(S) + 1.645 * \text{Sqrt}(Var(S)) = \\ &= 384 + 1.645 * \text{Sqrt}(11,264) \\ &= 559 \end{aligned}$$

1.645 is the 95<sup>th</sup> percentile of the standard normal distribution.