Question #193
Key: C

The two moment equations are

$508 = \frac{\theta}{\alpha - 1}$, $701,401.6 = \frac{2\theta^2}{(\alpha-1)(\alpha-2)}$. Dividing the square of the first equation into the second equation gives $\frac{701,401.6}{508^2} = 2.7179366 = \frac{2(\alpha-1)}{\alpha-1}$. The solution is α = 4.785761. From the first equation, θ = 1,923.167. The requested LEV is

$$E(X \wedge 500) = \frac{1,923.167}{3.785761}\left[1 - \left(\frac{1,923.167}{1,923.167 + 500}\right)^{3.785761}\right] = 296.21.$$