Question #279
Key: B

Pays 80% of loss over 20, with cap of payment at 60, hence cap of loss of
$\dfrac{60}{0.8} + 20 = 95 = u$

Th 5.13 $E(Y$ per loss$)$ = $\alpha\left[E(X \wedge 95) - E(X \wedge 20)\right]$

$= 0.8\left[\int_0^{95} S(x)dx - \int_0^{20} S(x)dx\right]$

$= 0.8\int_{20}^{95} S(x)dx = 0.8\int_{20}^{95}\left(1 - \dfrac{x^2}{10,000}\right)dx = 0.8\left(x - \dfrac{x^3}{30,000}\Big|_{20}^{95}\right) = (0.8)(46.6875) = 37.35$

$E(Y$ per payment$)$ = $\dfrac{E(Y \text{ per loss})}{1 - F(20)} = \dfrac{37.35}{0.96} = 38.91$