

Question #268

Answer: A

$$\begin{aligned} E(Z) &= 500 \int_0^4 0.2(1 - 0.25t) dt + 1000 \int_0^4 0.25(0.2t) dt \\ &= 500(0.2) \left(t - 0.125t^2 \right) \Big|_0^4 + 1000(0.25) (0.1t^2) \Big|_0^4 \\ &= 100(4 - 2) + 250(1.6) = 600 \end{aligned}$$