Practice Quiz - Loss Models 1

Question 1. **(1 pt)** A nonnegative random variable X has $f(x) = \dfrac{3 \cdot 1000^3}{(x+1000)^4}$ as the PDF. Find $\mathbb{P}(X > 1000)$.

Question 2. (1 pt) Let $X|\Lambda \sim \mathcal{E}(\Lambda)$ and $\Lambda \sim \mathcal{E}(5)$. Find $\mathbb{E}[X]$.

Question 3. (1 pt) N follows a Poisson distribution with $\lambda = 1$. Compute $\mathbb{E}\left[N^2\right]$.