

Lesson 8.

Word Problems

1. The number of bacteria present in a certain culture after t minutes of an experiment was $Q(t) = 1000e^{0.01t}$. What was the average number of bacteria present during the first 3 minutes of the experiment?

2. A patient is injected with a drug, and t hours later, the concentration of the drug remaining in the patient's bloodstream is given by

$$C(t) = \frac{5t}{(t^2 + 36)^{3/2}} \quad \text{mg/cm}^3$$

- What is the average concentration of drug during the first 8 hours after the injection?