7-2 Standardized Test Prep

Properties of Exponential Functions

Gridded Response

Solve each exercise and enter your answer in the grid provided.

1. Suppose you deposit $6000 in a savings account that pays interest at an annual rate of 4% compounded continuously. How many years will it take for the balance in your savings account to reach $8000? Round your answer up to the nearest number of years.

2. Suppose you make $1500 at your summer job and you decide to invest this money in a savings account that pays interest at an annual rate of 5.5% compounded continuously. How many dollars will be in the account after 5 years? Express the answer to the nearest whole dollar.

3. The half-life of a radioactive substance is the time it takes for half of the material to decay. Phosphorus-32 is used to study a plant's use of fertilizer. It has a half-life of 14.3 days. How many milligrams of phosphorus-32 remain after 92 days from a 100-mg sample? Express the answer to the nearest whole milligram.

4. A scientist notes the bacteria count in a petrie dish is 40. Three hours later, she notes the count has increased to 75. Using an exponential model, how many hours will it take for the bacteria count to grow from 75 to 120? Express the answer to the nearest tenth of an hour.

Answers

1.
2.
3.
4.