

1. How long would you need to save \$3,500 in a savings account with a 3.2% interest rate, compounded yearly, to end up with \$5,000?
2. A \$2,500 savings account earns 3.8 % continuous interest. How long will it take to triple the original investment?
3. A town's population grows at a continuous rate of 3.6 %. If the population was 15,000 in 2010, when will the population be 30,000?
4. A colony consists of 10,000 bacteria. In ten hours, the population has increased to 50,000. Find the rate of growth.
5. A culture has 500,000 bacteria. After three days of antibiotics, the population has decreased to 5,000. Find the rate of decay.
6. A colony of 500 bacteria triples every hour. When will the colony have 30,000 bacteria?
7. If the half-life of a substance is 200 years and 16% of the original amount remains, how old is the substance?
8. A substance is decreased by half every half-hour. If the substance initially has 100,000 units, how many hours will it take to have 1,000 units?
9. A bacteria colony is reduced by one third every two days. If the colony started with 80,000 bacteria, how many days will it take to have 1,000 bacteria?
10. If the half-life of the substance is 50 years and 30% of the initial amount remains, how old is the substance