

1. In 1997, Bruce Wayne deposited \$15,200 into an account that compounds quarterly at a rate of 2.3%. He decided to take out all his money and give it to his friend Robin in 2010. How much money will he have for his friend?



2. While in prison, Poison Ivy allowed her stolen goodies to accumulate in a Swiss bank account. When she was put in prison in 1997, she had \$15000 in stolen goods. When she was released in 2013, her account had doubled. What was the annual rate on her account (to three decimal places)?

What was the amount in her account in 2005?

3. On January 1, 2015 Bonnie deposited \$12 into a savings account that compounds monthly at a rate of 3.5% per year. Later, her ancestor Clyde checked the account on January 1, 2020. How much did he find in this savings account?
4. Selena deposited \$1400 into a savings account that compounds continuously. How much will there be in her account if it is growing at a rate of 1.5% when she checks it in 2.5 years?

5. Find the amount of money in an account that compounds yearly at a rate of 0.856% if the initial deposit of \$50 was made in 1492 and we were to check it this year.
6. Sylar deposited \$300 into an account that is compounded continuously at a rate of 0.75%. How much is in the account if it has been growing for 15.5 years?
7. Speed Racer deposits \$1450 into an account that compounds monthly at a rate of .092% each year. How much will be in his account after 6.25 years?



8. The population of a town can be modeled by the equation  $P(t) = 32(1.047)^t$ , where  $P(t)$  is the population in the thousands and  $t$  is the year. What is the town's annual growth rate? What is the initial population?

In approximately what year will the population double?

9. Sodium has a half-life of 4 years. If you started with a 100-mg sample, how much sodium would be left after 14 years?