

Exponential Function Word Problems

Exponential Model	Compound Interest	Continually Compounded Interest

1. Paul invests \$6500 in an account with a 3.2% annual interest rate, compounded continuously. How long will it take for his balance to reach \$11,000?
2. Sara invests \$3000 in an account with a 10% annual interest rate, compounded monthly. How long will it take for her balance to triple?
3. In 2020 the population of a small town is 3800 people. If the population grows at a rate of 4% annually, how long will it take for the population to double?

Extra Credit: Round answers to the nearest tenth of a year.

4. Paul invests \$500 in an account with a 5.5% annual interest rate, compounded continuously. How long will it take for his balance to reach \$2000?

5. Sara invests \$1000 in an account with a 8% annual interest rate, compounded weekly. How long will it take for her balance to triple?

6. In 2020 the population of a small town is 3800 people. If the population grows at a rate of 2.2% annually, how long will it take for the population to double?