Word Problems with Exponential Functions

Determine how much money will be in an account if the initial deposit was $500 and the interest rate is 2.3% compounded monthly for 9 years.
Write down formula and then the calculator answer.

If you want to end up with a value of A dollars at some point in the future, the amount P that you have to deposit today in order to do that is called the present value of A. Find the present value of $3500 at 5.5% interest compounded annually for 4 years.

Write down formula and then the calculator answer.

When his first child was born a father put $3000 in a savings account that pays 4% annual interest compounded quarterly. How much will the account be worth on the child's 18th Birthday?

Write down formula and then the calculator answer.

When his second child was born a father put $3000 in a savings account that pays r% annual interest compounded quarterly. Suppose that on the child's 18th Birthday the value of the account is $14889.50. What was the annual interest rate of the account?

Write down formula and then the calculator answer.

When his third child was born a father put $3000 in a savings account that pays 10% annual interest compounded quarterly. How long will it take for the account to double?

'Rule of 72' to estimate doubling time

If the first child was 8 years old when the third child was born, when will the younger child's account equal the older child's account?

Ellen wants to have $30,000 for a down payment for a house in 5 years. How much does she need to invest today at 5.7% annual interest, compounded quarterly, to get her down payment?

Write down formula and then the calculator answer.

If the population of India was 650 million a decade ago and it is now 790 million and continues to grow exponentially at the same rate, what will the population be in 5 years?

Write down formula and then plug in some points to figure out what "P" and "a" must be. Then answer the final question.