

Math 150, Section 4.4

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Purpose of this section

In this section we learn how to solve equations involving logarithms and exponential functions.

Guidelines for Solving Logarithmic/Exponential Equations

- ▶ Isolate the logarithmic/exponential term on one side of the equation; you may first need to combine the logarithmic/exponential terms.
- ▶ Write the equation in exponential form using the definition of logarithms.
- ▶ Solve for the variable and verify that each is actually a solution by plugging them into the original equation.

Compound Interest

This subsection talks about how to find the time taken for a certain investment P to grow to a certain amount Q . Since compound interests are exponential functions, this amounts to solving an exponential equation. If the interest is compounded n times a year then the formula to use is $A(t) = \left(1 + \frac{r}{n}\right)^{nt}$ and if the interest is compounded continuously then use the formula $A(t) = Pe^{rt}$.