**PreCalculus 3.4 Exponential and Logarithmic Equations**

**Strategies for Solving Exponential and Logarithmic Equations**

1. Rewrite the original equation in a form that allows the use of the one-to-one properties.
2. Rewrite an exponential equation in logarithmic form and apply the Inverse Property of logarithmic functions.
3. Rewrite a logarithmic equation in exponential form and apply the Inverse Property of exponential functions.

Examples: Solve

\*

When solving equations using logarithmic equations – remember that you can’t take the log of a negative number. **Extraneous solutions** are possible, so you must check your solution to make sure that you are not taking the log of a negative number.

Examples:

**Applications**

*You have deposited $1000 in an account that pays 3.25% interest compounded continuously. How long will it take for the amount in your account to double?*

*The demand equation for a new cell phone is given by the equation:*

*Find the demand (x) for a price of:*