# Algebra 2 8.5 Exponential and Logarithmic Equations Name:

**Change of Base Formula**

Examples:

 (you can also use the **Change of Base key** on your calculator)

Find each:

**Exponential Equation – an equation with a variable in the exponent.**

**We will be using the property:**

**Solving Exponential Equations**

 Solve: the base of the power is 5

 take of both sides of equation

 divide by both sides of equation by 2

 solve using your Change of Base key

 Solve:

 Solve:

 Solve:

**Logarithmic Equation – an equation with a logarithm.**

**We will be changing the logarithmic equation to an exponential equation:**

 **becomes**

Example:

 becomes

**Solving Logarithmic Equations**

 Solve:

 Solve: condense to a single logarithm

 common logarithm means base 10

 Solve:

 Solve:

 Solve: