**PRIMO Lesson Two Handout**

**Basic Logarithms**

The logarithm of a number indicates the power that the base of the logarithm must be raised to for it to become equivalent to the number itself. Put simply, the logarithmic function with **base** and **argument** will return a value where . For example, and , since and .

Knowing the basic mechanism of the logarithm function, we can now try to operate with logarithms. Shown below are some basic logarithm formulas that may be used to calculate between multiple logarithmic functions or simplifying logarithm terms:

* The base of a logarithm can not be 1, 0, or a negative number, and the argument of a logarithm can only be positive. This applies to all formulas below.
* stands for

* 1 = 0
* b = 1
* = x + y
* = x - y
* ax = x a
* a = (a) / ( b)

**Q1.** Express 53= 125 in logarithm form.

**Q2.** Find the log of 32 to the base 4.

**Q3.**Solve for x if log(x-1) +log(x+1)=1

**Q4.** Calculate .

**Q5.** Express in the form of where both and are as small as possible. Find the remainder whenis divided by 1000.