Algebra 2
Unit: Exponential and Logarithmic Functions
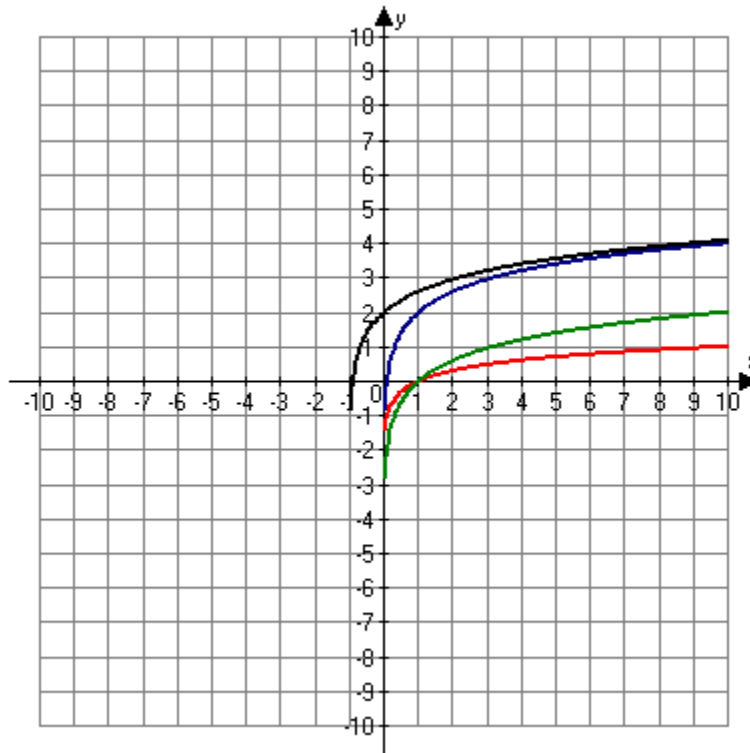**Section: Graphing Logarithmic Functions and Domain and Range**

Example: Transformations of Logarithmic Functions

Problem

Graph f of x is equal to two times the log of the quantity x plus one plus two.

Solution

In this case "a" is equal to two, "h" is equal to negative one, and "k" is equal to two.

The red graph is f of x is equal to log of x.

The green graph is f of x is equal to two times log of x. It is just the previous graph stretched by a factor of 2.

The blue graph is f of x is equal to two times log of x plus two. It is shifted 2 units up.

The black graph is f of x is equal to two times the log of the quantity x plus one plus two. It is shifted one unit to the left.