Exponential and logarithmic functions

Exponential functions represent data in which quantities that are of a homogenous type are repeated and there is growth of the data. The ical example for which exponential functions are utilized is to determine the population growth of a species. An exponential function application is the growth of human on earth or of particular country or city. This function is able to predict the world population at any point in time in the future. The growth model is not limited to human it can applied to other population such as the growth of a bacteria. Such data is very valuable for scientist such as microbiologist in the experiments they perform. Another application of the exponential function is the compound interest formula (Sobel & Lerner, 1995, p. 349). The compounded interest formula is utilized a lot by banks to calculate the amount of money a person earns in a savings account as well as interest charged to customers on loans. Appendix A shows a graphical illustration utilizing the exponential function.

The logarithmic function is a function which its base is fixed and the number that is manipulated is the power or argument. The logarithmic function happens to be the inverse function of the exponential function. Graphically this function is a reflection an exponential function. There are different categories of logs such as the normal, natural and the log10 application. In chemistry logarithmic functions are utilized to calculate different concentration such as ph. In computer science logarithmic functions are utilized for to represent quantities of information. Appendix B illustrates a graphical illustration utilizing a logarithmic function.

References

Sobel, M., Lerner, N. (1995). Precalculus Mathematics (5th ed.). London: Prentice Hall.

Appendix A: Exponential function

Data legend

x

f(x)

-3

0. 125

-2

0. 25

-1

0. 5

0

1

1

2

2

4

3

8

Appendix B: Logarithmic function

Data Legend

X

Y

0. 125

-3

0. 25

-2

0. 5

-1

1

0

2

1

4

2

8

3