# Exponential Growth

Consider the meaning of an exponential function . Increasing x by one multiplies by e. We consider the class of functions of the form which defines a function with initial value A. This class of functions includes exponential functions of other bases through the property that



We now consider how often such a function will grow by a factor of N. We want



Dividing through by A



From the properties of exponents



Divide through by 



Take the Napier logarithm of both sides



Divide by c



The value of is multiplied by a factor of N over every interval of length 

The successive values form a geometric progression with common ratio N