**A Very Special Number Called e – Pre-Calculus Final Project**

One of the most interesting numbers in mathematics is *e.* Like , it is irrational (meaning it cannot be expressed as the quotient of two integers) and transcendental (meaning it cannot be expressed as a solution to a polynomial equation having rational coefficients). It is the most used base (as in base and exponent) in calculus – the number whose natural logarithm equals 1. Its decimal expansion, correct to ten decimal places, is 2.7182818285…

Just as shows up in a variety of mathematical situations, *e* makes many appearances. People have found it in a wide assortment of relationships from mere curiosities to very remarkable and elegant results. You will explore a few of *e*’s appearances for your final project and learn about why it’s such an important number in math. Then you should research and describe another application of e. Possibilities include: continuous growth or decay (half lifes or population growth, for instance), how to write e as a sequence of numbers added, other catenaries that appear in the real world, or something else that you find!













