

Abstract

Being able to approximate infinite series have been of great importance for the development of calculation. In this essay we will work towards an efficient way of approximating infinite series numerically with good accuracy. We will introduce and define the Bernoulli polynomials that will have a large part in our work, and it will all result in a proof of the Euler-Maclaurin formula, that is partly named after one of the greatest mathematicians in history Leonhard Euler.