

New proposed identity for the e constant

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Abstract

A proposal for a new identity regarding Euler's constant, e . The identity involves a sum which for values $N \geq 1000$ already gives out approximations for e where the error is smaller than 10^{-18}

1 Introduction

$$e = \frac{30295 \ln(2) - 17797 \sum_{n=0}^N \frac{\binom{2n}{n}^4 n / (-1)^n}{(n!)^3 4^{3n} (-1)^n (-1)^n} - 9257}{5494}$$