The Ghosh identity

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Abstract

In this paper, I describe the Ghosh identity.
The paper ends with "The End"

Introduction

The Ghosh identity is useful in many fields including engineering,
economics, finance, statistics and mathematics.
In this paper, I describe the Ghosh identity.

The Ghosh identity

$$8(a+b+c)^3 - (a+b+c-x)^3 - (a+b+c-y)^3 - (a+b+c-z)^3 - 3(a+b+c+x)(a+b+c+y)(a+b+c+z)$$

$$=$$

$$(a+b+c-x-y-z)\left(2a^2 + 4ab + 4ac + 2ax + 2ay + 2az + 2b^2 + 4bc + 2bx + 2by + 2bz + 2c^2 + 2cx + 2cy + 2cz - x^2 + xy + xz - y^2 + yz - z^2\right)$$

The End