Abstract:

This paper , tends to prove , that the beal's conjecture doesnt hold.

Problem

If $A^x + B^y = C^z$

, where A, B, C, x, y and z are positive integers and x, y and z are all greater than 2, then A, B and C must have a common prime factor.

Proof

$$A^x + B^y = C^z \iff B^y \neq C^z - 1$$

Divide by A^x

$$\frac{B^y}{A^x} \neq \frac{C^z}{A^x} - \frac{A^x}{A^x}$$

Cancel A^x from denominators

$$B^y \neq C^z - A^x$$

Change A^x to left hand side

$$A^x + B^y \neq C^z$$

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