ABSTRACT: In [1-4], proof for Beal’s Conjecture has been presented. Counter examples for Beal’s Conjecture are presented in this paper.

1. STATEMENT OF BEAL’S CONJECTURE:

If \( A^x + B^y = C^z \)

Where \( A, B, C, x, y, z \in \mathbb{Z}^+ \) and \( x, y, z > 2 \) then \( A, B, C \) have a common prime factor.

Counter example: 1

\[ 2^{88} + 9999999999999^3 = 10^{39} \]

Here, \( A = 2; B = 9999999999999; C = 10 \)
\( x = 88 \quad y = 3 \quad z = 39 \)
Note that \( x, y, z > 2 \) But \( \gcd (A, B, C) = 1 \)

Counter example: 2

\[ 2^{233} + 9999999999999^6 = 10^{84} \]

Here, \( A = 2; B = 9999999999999; C = 10 \)
\( x = 233 \quad y = 6 \quad z = 84 \)
Note that \( x, y, z > 2 \) But \( \gcd (A, B, C) = 1 \)

Counter example: 3

\[ 2^{205} + 9999999999999^3 = 10^{75} \]

Here, \( A = 2; B = 9999999999999; C = 10 \)
\( x = 205 \quad y = 5 \quad z = 75 \)
Note that \( x, y, z > 2 \) But \( \gcd (A, B, C) = 1 \)

Counter example: 4

\[ 20000000000000^3 + 15000000000000^3 = 22489707226377^3 \]

Here, \( A = 20000000000000; B = 15000000000000; C = 22489707226377 \)
\( x = 3 \quad y = 3 \quad z = 3 \)
Note that \( x, y, z > 2 \) But \( \gcd (A, B, C) = 1 \) \( \gcd \) – greatest common divisor.
References


