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Mathematics is a Language of Size, Shape, Order Which does not Need Common Prime Factors in Equations with Exponents: Lines have One Dimension in 3 Spaces-19 Examples

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Abstract: Beal conjecture is shown false with 19 counterexamples. Here I show mathematics is a language of size, shape, order which does not need common prime factors in equations with exponents.

Keyword: *Prime Numbers, Common, Not Common Prime Factors, Beal Conjecture.*

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I. INTRODUCTION

Fifteen new counterexamples that the Beal conjecture is false. There are no common prime factors in ALL fifteen.

II. METHODOLOGY

I reviewed math as a child and studied it. I reviewed math up to the class Calculus III-Multidimensional Calculus at NEIU which was required for the physics MS program at NEIU. I walked by Nobel Prize winner Hans Bethe when I was studying at NEIU to meet Charles Nissim Sabbat for the class.

III. DISCUSSION

- *Example 1*

7^4= 3 (20^3) + 1^3

2401 = 2400 + 1

7,20, and 1 are not common prime factors

- *Example 2*

5^3 + 3^3 + 4^3 = 6^3

125 + (27 + 64) = 216

5, 3, 4,6 are not common prime factors

- *Example 3*

7^4 + i^3 = 3(20^3)

2401 + -1 = 2400

7 and 20 do not share common prime factors

- *Example 4*

3^3 + 0 =3^3

27 = 27

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➢ *Example 5*

2^3+ 0 =2^3

8+ 0 8

➢ *Example 6*

3^4 + (3^3 + 2^4 + 1^3) =5^3

81 + (27 + 16 +1)= 125

81 + 44=125

➢ *Example 7*

9^3 + 2^4 = 149^5

729 + 16 =745

729 + 16 = (149+ 149+149 +149 +149)

745 = 745

No common prime factors

➢ *Example 8*

21^3= 20^3+ 10^3+ 3^5+2^4+1^3+1^3

9261= 8000 + 1000 + 243+ 16 + 1 +1

9261 = 9261

No common prime factors

➢ *Example 9*

Using wave particle duality one particle can be seen as 2 waves from De Broglie and his friends and current physics

1^3+2^3 = 3^2

1+ 8= 9

One particle can be seen as 2 waves

➢ *Example 10*

10^2 + 3^5= 7^3

100+ 243 = 343

No common factors

One particle can be seen as 2 waves

➢ *Example 11*

2^7 + 2^7 = 2^8

128 + 128 = 256

Not common prime factor. 2 and 8 not 2 and 7

Factors come in pairs.

➢ *Example 12*

2^ 8 + 2^8 = 2^9

512 + 512 = 1024

Factors not common factors come in pairs. 2,9 not same as 2,8

➢ *Example 13*

19^3 + (5^3 + 2^4) = 20^3

6859 + (125 + 16) = 8000

6859 + 141 = 8000

5, 2, 19, 20 not common prime factors

➢ *Example 14*

2^7 + 3^3=2^5 *5

128 + 27 = 32*5

160 =160

No common prime factors

➢ *Example 15*

1^3 +1^3 = cube root of 2^3

1+1 =2

As the meaning of the conjecture is unclear

➢ *Example 16*

3^3- 3^3 =0

27-27=0

No common prime factor as 0 is a real number

➢ *Example 17*

5^3 + 4^3 = 3^3 *7

125 + 64 = 189

➢ *Example 18.*

Lines have one dimension in 3-dimensional space. (2)

1^3 + 1^3 = 1^3

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Lines always have one dimension in 3 dimensional space. Even if a line is added to another the line is still one dimension in 3 dimensional space.(2)

Beal conjecture is still false.

- *Example 19*

(8^3 + 1^3) + 6^3= 9^3

513 + 216= 729

No common prime factor

IV. CONCLUSION

Nineteen new examples show there are no COMMON PRIME Factors. All the exponents are greater than 2. All I have to show is one counterexample. I have published 8 articles. Beal conjecture is shown Beal is shown false as mathematics is a language of size, shape, order. (2)

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