

Beal Conjecture Could Also be Shown True with 8 Examples - Numbers with Exponents can be Seen as Having Common Exponentiated Bases

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Publication Date: 2026/09/26

Abstract: Numbers with exponents can be seen as having common exponentiated bases. I just dispute the use of the word factor as used for multiplication. Factors are a word used for multiplying numbers not exponentiation of bases.

How to Cite: James Timothy Struck (2026) Beal Conjecture Could Also be Shown True with 8 Examples - Numbers with Exponents can be Seen as Having Common Exponentiated Bases. *International Journal of Innovative Science and Research Technology*, 11(8), 4132-4133. <https://doi.org/10.38124/ijisrt/26aug1338>

I. INTRODUCTION

Beal conjecture has been around since 1997. A different perspective is that the conjecture has some supportive examples. Beal conjecture could also be shown True with 8 examples. Bodie's proof is about greatest common factor where greatest common factors is not relevant to Michael Beal's work. (1) Michael does not ever discuss greatest common factor in the proof example from Notices in Mathematics from the American Mathematical Society. (2)

II. DISCUSSION

Greatest common factors are not what Andrew Beal is proving. Factors involve multiplication of numbers. John Bodie is not a mathematician. He is from Birmingham School of law. Why is Beal right? We can use 8 examples to show Beal is right.

➤ Example 1

$$7^4 + 5^5 = 14^3$$

$$343 + 2401 = 2744$$

Here the number 7 is a common exponentiated base not really a factor or greatest common factor.

7 is common as an exponentiated base in 343 and 2744. Factors involve multiplication.

➤ Example 2

$$16^3 + 16^3 = 2^{13}$$

$$4096 + 4096 = 8192$$

Here 2 is a common exponentiated base for 16 and 2.

➤ Example 3

$$2^3 + 2^3 = 2^4$$

$$8 + 8 = 16$$

2 is a common exponentiated base not a Factor.

➤ Example 4

$$6^3 + 3^3 = 3^5$$

$$216 + 27 = 243$$

3 is common as an exponentiated base in the latter two numbers. In the first number, 3 is a factor of an exponentiated base of 6.

➤ Example 5

I could show more examples like $2^5 + 2^5 = 2^6$ a common exponentiated base of 2.

➤ Example 6

$$2^{10} + 2^{10} = 2^{11}$$

$$1024 + 1024 = 2048$$

2 is a common exponentiated base.

➤ *Example 7*

$$2^9 + 2^9 = 2^{10}$$

$$512 + 512 = 1024$$

2 is a common exponentiated base.

➤ *Example 8*

$$2^{11} + 2^{11} = 2^{12}$$

$$2048 + 2048 = 4096$$

2 is a common exponentiated base.

III. CONCLUSION

Exponentiated bases are not factors. Study of exponents and multiplication are different fields. Mathematical Sciences are a real field where the study of exponents is different than multiplying factors. We can respect Andrew Beal for noticing an interesting coincidence. There are still an infinite number of numbers or positive integers to check and confirm. 8 examples are a small number of examples. 0 can be seen as a trivial example as 0 is not a positive integer arguably. Thank you, Andrew, for noticing an interesting occurrence with numbers.

REFERENCES

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