Special 2009

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Every year is special by itself. Let us analyze a bit about it. Probably it might make you think in the similar lines. If you some number next time, you certainly tweak it and see you can find something special about it.

Consider 2008, it is having factors 1, 2, 4, 8, 251, 502, 1004 and 2008. First 4 factors (1, 2, 4 and 8) and Last 4 factors (251, 502, 1004 and 2008) are in geometric progression. The number 2008 also can be written as sum of cubes of three different numbers 4, 6 and 12, i.e., $2008 = 4^3 + 6^3 + 12^3$.

What about 2009? Come up with something.

Here is my thought. This number can be written as sum of the cubes of 4 different numbers, in two different ways.

$$2009 = 1^3 + 4^3 + 6^3 + 12^3.$$
$$2009 = 4^3 + 6^3 + 9^3 + 10^3.$$

It is having 6 factors including 1 and the number itself.
Factors of 2009 : 1, 7, 41, 49, 287, 2009, prime factors being 7 and 41.

If 2009 is converted into Octal system (Base 8), it is 3731, which is equal to 11111011001 in binary system.

2009 is sum of two consecutive numbers 1004 and 1005.

2009 can be written as the sum of squares of three numbers like shown below.

$$2009 = 3^2 + 8^2 + 44^2.$$
$$2009 = 4^2 + 12^2 + 43^2.$$
$$2009 = 7^2 + 14^2 + 42^2.$$
$$2009 = 3^2 + 20^2 + 40^2.$$
$$2009 = 2^2 + 22^2 + 39^2.$$
$$2009 = 6^2 + 23^2 + 38^2.$$
$$2009 = 8^2 + 24^2 + 37^2.$$
$$2009 = 18^2 + 23^2 + 34^2.$$
$$2009 = 12^2 + 29^2 + 32^2.$$
$$2009 = 16^2 + 27^2 + 32^2.$$
$$2009 = 22^2 + 25^2 + 30^2.$$

2009 can be written in another way $1 + 2 + 3^4 + 4 + 5^4 + 6^4$.

We can find many more interesting things if we analyze the numbers.

Numbers are fun! Keep watching the numbers and play.