

The 236th Birthday of America Possesses "Magical" Prime Powers

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Wednesday, July 4th, 2012 marked the 236th anniversary of the US Independence Day. The United States of America officially declared its independence from the British Empire 236 years ago on July 4th, 1776.

As I was looking into date numbers related to Independence Day, I stumbled onto something unique that convinced me that this (236th) anniversary possesses some "magical" prime powers. How? I will explain.

Number 236 equals $2^2 \times 59$, that is, its prime factors are 2 and 59. 59 is the 17th prime number which equals $59 = 17 + 19 + 23$, i.e., the sum of three consecutive (7th, 8th and 9th) prime numbers. Also, $2 + 59 = 61$, another prime and the 61st prime number equal 283. Note that all of these primes are simply derived from this year's Independence Day anniversary number 236.

1. Just for curiosity, I went ahead and multiplied primes 17, 19, 23 and 283 and I couldn't believe what I found: $17 \times 19 \times 23 \times 283 = 2102407!$ Do you recognize this number? (Hint: Read it backwards and interpret it as a calendar date!) This result indicates that the full date number of this year's US Independence Day is cryptically coded in its anniversary number. Does this make sense?

2. Next, put numbers 7, 8 and 9 (corresponding to primes 17, 19 and 23) side-by-side to make-up the number 789. Then, add 789 with its reverse (987). What comes out? (1776!) Wow! (Note that interestingly enough, if primes 59, 2 and 2 (the product of which yields 236) are put side-by-side as 5922, one-sixth of this number equal 987.)

3. Third, divide the full date number of the 236th anniversary July 4th, 2012 expressed as 7042012 by prime 17: $7042012 \div 17 = 414236$. What do you see? (Hint: Focus on the rightmost three digits.) It is like magic, isn't it?

4. Next, split number 414236 in the middle as 414 and 236 and multiply these two numbers: $414 \times 236 = 97704$. What do the rightmost three digits of the result represent? (July 4th!)

5. Let us now divide the full date number 7042012 by prime 17 and multiply the result by six (six being the difference of the digits of

prime 17): $7042012 \div 17 \times 6 = 742026$. Do you recognize this date? (Hint: The full date of the 250th anniversary of the US Independence Day.)

6. The product of the prime factors of 236 is $2 \times 59 = 118$ and 118 can be expressed as the sum of four primes: $118 = 7 + 23 + 41 + 47$. Interestingly enough, the product of these four prime numbers yields $7 \times 23 \times 41 \times 47 = 310247!$ (Hint: Read it backwards!) So, the full date number of next year's US Independence Day is also cryptically coded in number 236! Fascinating!

7. Note that 7, 23, 41 and 47 are the 4th, 9th, 13th and 15th prime numbers. Numbers 15, 13, 9 and 4 (corresponding to primes 47, 41, 23 and 7) put side-by-side yield 151394 which equals $151394 = 2 \times 59 \times 1283$, where 283 (rightmost three digits of 1283) corresponds to the 61st prime (where again, $61 = 2 + 59$, the sum of the prime factors of 236). Another hidden connection, agreed?

8. Interestingly enough, the 236th prime number is 1487. Also, if number 59 is reversed yielding 95, the 95th prime number is 499. The product of primes 1487 and 499 yields: $1487 \times 499 = 742013!$ (Next year's Independence Day!) Unbelievable!

9. If number 236 is split as 2, 3 and 6 (where 2 and 3 are the prime factors of 6), note that $6^{(2+3)}$ (that is, six to the power the sum of its prime factors) yields 7776, that is, the 6000th anniversary year of the US Independence Day!

10. Lastly, note that this year, 2012, is a leap year and so was 1776. 2012 marks the 57th leap-year anniversary of Independence Day where 57 equal the difference of 2 and 59, the prime factors of 236. In addition, July 4th is the 186th day of each leap year. Interestingly enough, 186 equals twice the sum of numbers 17 and 76, which together side-by-side constitutes 1776. The difference of the reverses of primes 2 and 59 also equal $(17+76)$. Also, prime 59 equals the difference of 17 and 76! Also, 1776 equals to three times 592, a number consisting of primes 59 and 2 put side-by-side.

Based on the above I hope I was able to convince you about why the 236th anniversary of US Independence Day possesses "magical" prime powers. Happy 236th Fourth of July Birthday America!

Note: Benjamin Franklin's birth date of January 17th is also cryptically coded in number 236. How? It turns out primes 2 and 59 (which are the prime factors of 236) happen to be the 1st and the 17th prime numbers. Interestingly enough numbers 1 and 17 put together side-by-side yields 117, representing January 17. Note also that in July 1776, Franklin was the oldest signer of the Declaration of Independence at age 70 where 70 equals the difference of the reverses of numbers 1 and 17.

Reading Franklin



Simon Finger, *The Contagious City: the Politics of Public Health in Early Philadelphia* (Cornell University Press, June, 2012). The publisher's web site says that "Finger...shows that key figures in the city's history, including Benjamin Franklin and Benjamin Rush, brought their keen interest in science and medicine into the political sphere."

Gregg L. Frazer, *The Religious Beliefs of America's Founders: Reason, Revelation, Revolution* (University Press of Kansas, May, 2012). Russell Muirhead says it "slices through prevailing understandings of the founders' religious beliefs by showing that they are neither what contemporary secularists nor what contemporary Christians often wish they were."

Michael I. Meyerson, *Endowed by Our Creator: the Birth of Religious Freedom in America* (Yale University Press, June, 2012). Legal scholar Meyerson investigates how the framers of the Constitution envisioned religious freedom and how they intended it to operate in the new republic.

Christopher Pearl, "Franklin's Turn: Imperial Politics and the Coming of the American Revolution," *Pennsylvania Magazine of History and Biography*, April, 2012.