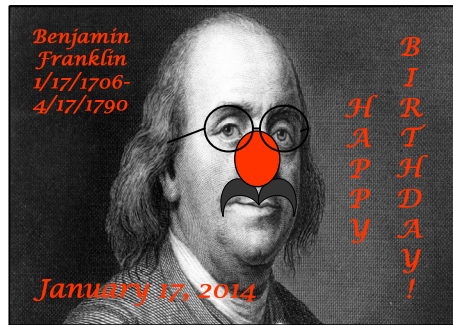


Happy 308th Birthday, Ben Franklin!

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Benjamin Franklin*

(January 17, 1706-April 17, 1790)

(*Note that Franklin's birthday number 308 is hidden in the above image.)

Friday, January 17, 2014 will mark Benjamin Franklin's 308th birthday. To help remember this great man and to celebrate his 308th birthday, I constructed the following numerical birthday brainteasers [1]:

1. The full date of Franklin's 308th birthday is 1-17-2014, or simply, 1172014. I split this number into 117 and 2014. Note that 2014 can be expressed in terms of its prime factors as $2 \times 19 \times 53$, where these three primes add up to 74. Interestingly enough, 2014 minus twice 117 results in 1780, the year Franklin turned 74.
2. If 1172014 (the full date of Franklin's 308th birthday) is split into numbers 1, 17, 20, and 14, these four numbers add up to 52, and four times the sum of 52 and its reverse, 25, yields Franklin's birthday number, 308.
3. Also, 308 divided by four is 77, which equals 11×7 , where removing the multiplication sign yields 117, representing Franklin's birth date, January 17.
4. In addition, the reverse of 2014, which is 4102, equals $2 \times 7 \times 293$, where these three prime factors add up to 302, which equals 2×151 , where the sum of primes 2 and 151 results in 153, the Franklin number [2].
5. Also, Franklin's 308th birthday expressed as 1172014 is divisible by 17, a number that repeatedly appears in Franklin's life [3]. Also, each pair of the prime factors of 2014 (2, 19, 53) differ by integer multiples of 17 ($19 - 2 = 17$, $53 - 19 = 2 \times 17$, and $53 - 2 = 3 \times 17$).
6. Also, the digits of 308 add up to 11 and the sum of the squares of the digits of 308 is 73. Interestingly enough, 11 plus 73 is 84, Franklin's death age. In addition, the reverse of the product of 11 and 73 yields back 308.
7. Lastly, the sum of the squares of the digits of 308 equals the sum of the cubes of the digits of 2014.

Happy 308th birthday, Ben Franklin!

[1] A. S. Inan, "Ben Franklin's 307th Birthday Possesses a Unique Numerical Property," *Franklin Gazette*, Vol. 22, No. 2, p. 2, Winter, 2012-2013.

[2] A. S. Inan, "Happy 306th Birthday, Ben Franklin!," *Franklin Gazette*, Vol. 21, No. 4, p. 1 and p. 10, Winter, 2011/2012.

[3] A. S. Inan, "More 17's in Ben Franklin's Life," *Franklin Gazette*, Vol. 21, No. 2, pp. 7-8, Summer, 2011.