Happy 205th Birthday, Charles Darwin!

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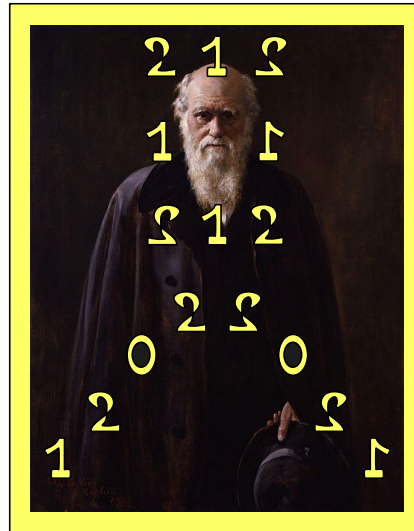
Charles Robert Darwin
(12 February 1809-19 April 1882)

Charles Robert Darwin (12 February 1809-19 April 1882) was an English naturalist and geologist, best known for his contributions to evolution theory [1]. Darwin Day is a celebration to commemorate the anniversary of the birth of Darwin on 12 February 1809 [2]. This year's Darwin Day, 12 February 2014 (12-02-2014, or simply, 12022014), coincides with Darwin's 205th birthday.

As a tribute to this great man and to celebrate his 205th birthday (Darwin Day), I constructed the following numerical birthday brainteasers:

1. The date of Darwin's upcoming birthday, 12022014, and his birthday number, 205, are connected numerically. How? First, replacing the rightmost two digits of 2014 with their sum yields 205. (Each of Darwin's birthdays between 2010 and 2018 has this property.) Second, the day and the month numbers of Darwin's birthday add up to 14, coinciding with the rightmost two digits of 2014, and the reverse of 14 (41) multiplied by the sum of its digits yields 205.
2. Also, the reverse of 2014 (4102) equals 14 times 293, where the reverse of 293 (392) is twice 14 square.
3. If the full date of Darwin's upcoming birthday (12022014) is split into 12, 02, 20, and 14, these four numbers add up to 48, the reverse of which is six times 14. Also, if 2014 is split into 20 and 14, the sum of these two numbers is 34, the reverse of which is 43, the 14th prime number, and interestingly enough, Darwin's birthday always coincides with the 43rd day of each year. Also, two times the sum of the digits of 43 and two plus the product of the digits of 43 each equals 14.

4. Darwin's full birthday, 12021809, also possesses a special numerical connection to his upcoming birthday number, 205. If date 12021809 is split into 12, 02, 18, and 09, these numbers add up to 41, and as indicated earlier, 41 times the sum of its digits yields 205. Also, the prime factors of Darwin's birth year 1809 (3 and 67) add up to 70, which equals 14 times the sum of the digits of 14.

5. Darwin died on 19041882. Interestingly enough, the rightmost two digits of 1882 is twice 41, which is reverse of the rightmost two digits of 2014. In addition, 1882 is 2 x 941, where the sum of these two primes is 23 times 41, where the sum of the digits of 23 times 41 yields 205. Also, if Darwin's death date, 19041882, is split into 19, 04, 18, and 82, these four numbers add up to 123, which equal 3 times 41. In addition, the digits of 1904 (the leftmost four digits of Darwin's death day) add up to 14. Also, 1904 is 14 times 136, where 136 equals four times 34, which is the reverse of 43, corresponding to the 43rd day of each year which coincides with Darwin's birthday. Also, the reverse of 136, which is 631, is the 115th prime, where the prime factors of 115 (5 and 23) add up to twice 14.

6. Split Darwin's full birth date, 12021809, in the middle as 1202 and 1809. Note that 1202 equals 2 times 601, where the sum of these two primes multiplied by three yields 1809. Wow!

7. If Darwin's birthday 12021809 is split as 12, 02, 18, and 09, and if each one of these four numbers is reversed, their sum yields 212, a palindrome number. Interestingly enough, Darwin's 212th palindrome-number birthday will be a very special one. Why? The full date of Darwin's 212th birthday to occur seven years later, in 2021, is 12022021, an eight-digit palindrome [3, 4]. In addition, Darwin's birthday number 212 interpreted in month-day date format as 2-12 represents his birth date, February 12. Also, 2021 equals 43 times 47, where 43 represent the 43rd day of the year (Darwin Day) and 47 expressed in ternary (base-3) number system equals 1202. Amazing!

8. If numbers 1 to 26 are assigned to the letters of the English alphabet (A = 1, B = 2, etc.), the numbers assigned to the letters of Darwin's full name, "Charles Robert Darwin," add up to 213. For this reason, Darwin's 213th birthday to occur in 2022 will mark another numerically special Darwin Day.

9. The numbers assigned to the letters of Darwin's most famous book titled, "On the Origin of Species," add up to 231, and by interchanging the places of the rightmost two digits, 231 yields 213, the sum of the numbers assigned to the letters of "Charles Robert Darwin". Isn't this fun?

10. Darwin's 303rd palindrome-number birthday to occur in the 22nd palindrome-number century coincides with palindrome year, 2112.

Happy 205th birthday, Charles Darwin!

[1] Charles Darwin, Wikipedia
http://en.wikipedia.org/wiki/Charles_Darwin
[2] Darwin Day, Wikipedia
http://en.wikipedia.org/wiki/Darwin_Day
[3] A. S. Inan, "Palindrome Dates in 2011," *The Beacon*, Vol. 112, Issue No. 8, pp. 12 & 13, University of Portland, Portland, Oregon, October 28, 2010.
[4] A. S. Inan, "Palindrome Dates in Four-Digit Years," *Pi in the Sky*, Issue No. 14, pp. 5-8, Pacific Institute of Mathematical Sciences (PIMS), University of Victoria, Victoria, BC, Fall 2010.