Happy 216th Birthday, Blessed Basil Moreau!
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Blessed Father Basil Anthony Marie Patrice Moreau, CSC (11 February 1799-20 January 1873) was the French priest who founded the Congregation of Holy Cross in 1837 [1]. This week Wednesday, 11 February 2015 marks Fr. Moreau's 216th birthday, which is numerically special. In addition, as I delved into some of the numbers in Fr. Moreau's life, I stumbled onto some other interesting number connections. For these reasons, I prepared the following birthday brainteasers to celebrate Fr. Moreau's upcoming birthday and to thank him for his spiritual and educational vision:

1. Fr. Moreau's 216th birthday is special because 216 is a cubic number which equals 6 x 6 x 6, where three 6's put side by side as 666 equal the product of the left and right halves of 1837, the year Fr. Moreau founded Holy Cross. (Note also that 6 + 6 + 6 = 18, the leftmost half of 1837. Also, as an aside, note that 216 equals $6^{(2+1)}$ where digits 2, 1 and 6 make up 216.) In addition, three times one more than 666 yield 2001, which if interpreted in the European calendar date format (day-month), is 20 January, the day when Fr. Moreau died.

2. After his 216th birthday, Fr. Moreau's next cubic-number birthday is his 343rd birthday to occur 127 years later. Interestingly enough, Fr. Moreau died 343 days after his 73rd birthday, where 73 coincide with the rightmost two digits of his year of death (1873). In addition, if 127 is split into digits 1, 2 and 7, $7^{(1+2)}$ = 343! Also, if 73 is split as 7 and 3, 7^3 = 343! Also, if number 343 is split as 3, 4 and 3, 3 plus 4 is 7 and 7 and the other 3 put side by side yield 73! Wow!

3. If numbers 1 to 26 are assigned in order to the letters of the French (or English) alphabet, the sum of the numbers assigned to the letters of Fr. Moreau's last name "Moreau" also equal 73, coinciding with the age he died and also the rightmost two digits of the year he died (1873). Also, the reverse of 73 (37) coincides with the rightmost two digits of 1837, the year when Fr. Moreau founded Holy Cross. Also, Fr. Moreau died during the 74th year of his life where half of 74 equal 37.

4. The sum of the squares of 73 (Moreau) and its reverse (37) add up to 6698 which equals 2 x 17 x 197, where these three primes add up to 216. In addition, three times one less than 73 equal 216. (Interestingly enough, 216 happens to be a 73-gonal number [2].) Also as an aside, 73 times 37 equals 2701, and 2701 plus its reverse (1072) yields 3773, which when split in the middle, yields back 73 and 37. Amazing! (Also, note that 2701 is the 73rd triangular number [3].)

5. If 73 is split as 7 and 3, 3^7 = 2187, where the sum of the digits of 2187 equals 18, which again is 6 + 6 + 6, where 6 x 6 x 6 = 216!

6. The sums of the numbers assigned to the letters of "Basil" and "Moreau" (43 and 73) add up to 116 which also equal 17 plus 99, where 17 and 99 make up 1799, Fr. Moreau's birth year.

7. Fr. Moreau died on 20 January 1873, which can be expressed as 20-01-1873. If this date number is split as 20, 01, 18, and 73, these four numbers add up to 112, which can be interpreted as his birth date, 11 February. Also, the sum of the digits of 20-01-1873 is 22, the age when Fr. Moreau was ordained a priest of Diocese of Le Mans, France, where the numbers assigned to the letters of "Le Mans, France" add up to 64 plus 47, which equals 3 times 37. Also, reverse of 64 (Le Mans) is 46, which represents Fr. Moreau's name, "Marie."

8. If Fr. Moreau's birth date expressed as 11-02-1799 is split into 11, 02, 17, and 99, the reverses of these four numbers (11, 20, 71 and 99) add up to 201, which can be interpreted as 20 January, the day he died. Also, the sum of 11, 02, 17 and 99 yield 3 times 43, where 3 and 43 put side by side result in cubic number 343. In addition, 43 is the sum of the numbers assigned to his name "Basil" and 3 plus 43 corresponds to the sum of the numbers assigned to his other name, "Marie."

9. Fr. Moreau's 212th palindrome-number birthday occurred on 11-02-2011 (11 February 2011), a rare palindrome day. Why? 11022011 equals 7^2 x 11^3 x 13^2, where 7, 11 and 13 are three consecutive prime numbers and the power digits 2, 3 and 2 put side by side yield 232, another palindrome number. Also, the prime multipliers of 11022011 add up to 7 + 7 + 11 + 11 + 11 + 13 + 13 = 73!

10. If written in American calendar date format (month-day-year), Fr. Moreau's 313th palindrome-number birthday expressed as 2-11-2112 (February 11, 2112) will also be a palindrome day coinciding with a palindrome year (2112)! Isn't this fun?

11. Fr. Moreau's 412th birthday expressed as 11-2-2211 will also be a palindrome day where the difference of the prime factors of 412, which are 2 and 103, is 101, another palindrome number.

12. 20 January 1873 (the day Fr. Moreau died) expressed as 20011873 equals the product of the three three-digit numbers 119, 211, and 797, where if one of the digit 1's and one of the digit 7's are removed, reordering the rest of the digits yield Fr. Moreau's birth date, 11-2-1799.

13. One plus twice the difference of 2001 (20 January) and 1102 (11 February) yields 1799, Fr. Moreau's birth year.

14. The sum of the numbers 43 (Basil), 97 (Anthony), 46 (Marie), 72 (Patrice) and 73 (Moreau) is 331, which equals 211 (February 11) plus 120 (January 20)! Also, the difference of 211 and 120 is 91, which equals the sum of 18 and 73, the two numbers which constitute Fr. Moreau's birth year, 1873!

15. Lastly, September 15, 2017 expressed in the month-day-year date format as 9152017 will mark the 10th anniversary of Fr. Moreau's beatification. Interestingly enough, if split as 915 and 2017, the difference of these two numbers yields 1102, Fr. Moreau's birth date, 11 February. Also, if the odd- and even-numbered digits of 20011873 (his day of death) are separated into two numbers 2017 and 0183, 2017 marks the 10th anniversary year of Fr. Moreau's beatification and 183 equals 91 plus 92, where twice the product of the reverses of 91 and 92 (19 and 29) yields 1102. Fascinating! Also, the digits of 2017 appear in a different order in the middle of Fr. Moreau's birth date, 11021799.

Happy 216th birthday, Blessed Fr. Basil Moreau!

[1] Basil Moreau, Wikipedia
http://en.wikipedia.org/wiki/Basil_Moreau
[2] Polygonal Numbers
http://www.virtuescience.com/polygonal-numbers.html
[3] 2701
http://maanumberaday.blogspot.com/2009/03/2701.html