Farewell birthday trivia for Tom Greene

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University of Portland Provost Dr. Tom Greene is retiring today and I put together the following farewell birthday trivia to thank him for his leadership and friendship:

- 1. Multiply the left and right halves of Tom's birth year  $Y_1Y_2Y_3Y_4$  to obtain the number X. Then, look up the X<sup>th</sup> prime number. Next, subtract the X<sup>th</sup> prime number from the reverse of Tom's birth year, namely  $Y_4Y_3Y_2Y_1$ , and read the result backwards. Surprise!
- 2. Further, if Tom's full birthday  $M_1M_2/D_1D_2/Y_1Y_2Y_3Y_4$  is split into  $M_1M_2$ ,  $D_1D_2$ ,  $Y_1Y_2$ , and  $Y_3Y_4$ , interestingly, half of the sum of  $M_1M_2$  and  $D_1D_2$  yields  $Y_1Y_2$ , and twice the difference of  $M_1M_2$  and  $D_1D_2$  results in  $Y_3Y_4$ .
- 3. Tom's birthday this year (2020) is numerically special: double the sum of the squares of the month and day numbers of his birthday. What comes out?
- 4. The reverse of the difference of the squares of the digits of Tom's new age this year equals the sum of the letter numbers of his last name, Greene.
- 5. Tom's 75<sup>th</sup> birthday will be special since the reverse of 75, namely 57, equals the sum of the letter numbers of his middle name, George.
- 6. Tom's 76<sup>th</sup> birthday will also be special since 76 equals the sum of the letter numbers of Thomas. Additionally, the rightmost two digits of that year equals the difference of the month and day numbers of his birthday.
- 7. Tom's 83<sup>rd</sup> birthday will be special too since 83 equals the sum of the reverses of the month and day numbers of his birthday, namely  $(M_2M_1 + D_2D_1)$ .
- 8. Tom's 89<sup>th</sup> birthday will be a five-digit palindrome date. Also, 89 is the 24<sup>th</sup> prime number (see item # 6).
- 9. His 90<sup>th</sup> birthday expressed as  $M_1M_2/D_1D_2/Y_3Y_4$  will be special too since  $Y_3Y_4 = M_1M_2 + D_1D_2$ .
- 10. Tom's 100<sup>th</sup> birthday expressed as  $M_1M_2/D_1D_2/Y_1Y_2Y_3Y_4$  has a special property:  $Y_1Y_2Y_3Y_4 = 2^{(M1+M2+D1+D2)}$ .
- 11. Tom's 153<sup>rd</sup> birthday expressed as  $M_1M_2/D_1D_2/Y_1Y_2Y_3Y_4$  will also be special:  $Y_1Y_2Y_3Y_4 = M_1M_2D_1D_2 + D_2D_1M_2M_1$ . Moreover, count the number of days left in the year after Tom's birthday.
- 12. Tom's 189<sup>th</sup> birthday will be a seven-digit palindrome date.
- 13. Lastly, Tom's 508<sup>th</sup> birthday contains every whole number from 0 to 7, each appearing once.

I hope you enjoy your retirement Tom!

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