


Numerical Brainteasers for Henry Ford's 150th Birthday

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*Happy 150th Birthday,
Henry Ford!*



7 7
3 3
0 0
1 2
8 0
6 1
3 3

*Ford + Motor + Company =
211 = July 30, 1863
2013 = 3 x 11 x 61
2 x (3 + 11 + 61) = 150*

Henry Ford (July 30, 1863-April 7, 1947) was an American engineer, innovator and industrialist, and regarded by many as the father of the automobile [1-4].

When Ford was 15, his father gave him a pocket watch, which Ford promptly dismantled and reassembled. Being impressed by his mechanical skills, his friends and neighbors asked him to fix their timepieces, gaining him the reputation of a watch repairman. At the age of 16, Ford moved from Michigan to Detroit to work as an apprentice for a machinist. In 1891, at age 28, he got hired as an engineer at the Edison Electric Illuminating Company and, in 1896, got promoted to chief engineer. In the summer of 1896, Ford hand-built his first car, the "Quadricycle Runabout," which had four horse power engine and could speed up to 20 mph. He sold this car for \$200 to refinance his second car which was completed around early 1898.

Ford incorporated the Ford Motor Company on June 16, 1903 and the company started building its first car, the Model A. On October 1, 1908, Ford began constructing Model T, the car that was for anybody and everybody. The company started its operations at a factory in Michigan in 1910 and Ford's first assembly line, producing magneto generators, began operations on April 1, 1913. On January 5, 1914, Ford announced his plan to share Ford Motor Company's profits with its workers, paying them \$5 for an eight hour day. In 1927, Model T production ends with the symbolic 15,000,000th car on May 26 and Model A is introduced on December 2. On March 31, 1932, Ford introduced the V-8 car.

Ford's innovations and vision transformed the automobile from an invention of unknown utility into an innovation that profoundly shaped the 20th century and beyond. Today, 66 years after his death in 1947, Ford Motor Company is still one of the largest automaker companies worldwide with revenue exceeding \$100 billion and over 100,000 employees.

This Tuesday, July 30, 2013, marks the 150th birthday of Henry Ford. As a tribute to him and to celebrate his upcoming birthday, I constructed the following recreational birthday brainteasers:

1. If numbers 1 to 26 are assigned to the letters of the English alphabet as A = 1, B = 2, C = 3, etc., the numbers assigned to the letters of "Ford Motor Company" add up to 43 (Ford) + 81 (Motor) + 87 (Company) = 211. Amazingly, Ford was born on July 30th, which was the 211th day of 1863! What a coincidence!
2. Ford died on April 7th, 1947, which can be expressed as 4-7-1947, or simply, 471947. First, if this number is split as 47, 19 and 47, the sum of these three numbers equals 113. Interestingly enough, the numbers assigned to the letters of "Henry Ford" add up to 70 (Henry) + 43 (Ford) = 113! Isn't this something? Second, 47 is an important number in Ford's life since it represents both his death day (April 7) and also the rightmost two digits of his death year (1947). Just for fun, I got curious about the 47th prime number and guess what, to my surprise, I found out it to be 211! Wow! Also, one plus 112, which is reverse of 211, is 113! Unbelievable!
3. Number 70 (Henry) is $2 \times 5 \times 7$ where $2 + 5 + 7 = 14$. Interestingly enough, the 14th prime number is 43 (Ford). Also, if 113 (Henry Ford) is split as 11 and 3, 11 plus 3 is also 14.
4. Note that this year (2013) constitutes the 150th anniversary of Ford's birth as well as the 66th anniversary of his death. However, there is more to it. How? If Ford's death date 471947 is split again as 47, 19 and 47, 19 plus 47 yields 66, Ford's death anniversary number this year. Furthermore, multiplying the other 47 with 66 yields 3102, the reverse of which is this year's number, 2013! It is like magic, isn't it?
5. In addition, 2013 equals $3 \times 11 \times 61$ where twice the sum of these three primes results in Ford's birthday number, 150! Also, 2013 is 33 times 61 where 33 plus 61 equals 94, which is twice 47, where again, 47 represents April 7.
6. The sum of the digits of Ford's death date 471947 is 32, the reverse of which is 23, and coincidentally, the 23rd prime is Ford's death age, 83.
7. Ford's first birthday after his death (his 84th) was 7301947 which equals to $19 \times 19 \times 113 \times 179$ where prime 113 represents "Henry Ford." In addition, $113 - 19 = 2 \times 47$ (where 47 is April 7), $179 - 113 = 66 = 19 + 47$ (where 19 and 47 put side-by-side is 1947), and $19 + 19 + 113 + 179 = 33 \times 10$ where $33 + 10 = 43$ (representing Ford).
8. Ford's birth year 1863 is an interesting year number for multiple reasons. First, the sum of its digits is 18, which also equals its leftmost two digits. Second, if split as 18 and 63, these two numbers add up to 81, which is reverse of 18. Third, 1863 is divisible by 81, which is again reverse of 18. Fourth, the reverse of the rightmost two digits of 1863 is 36, which equals twice 18. And fifth, one-fourth of the sum of 1863 and its reverse (3681) equals to 1386, another number made of the same digits as 1863.
9. 1903, the year Ford Motor Company was founded, equals 11×173 where the difference of these two primes is 162 and, interestingly enough, 162 also equals the sum of the numbers assigned to the letters of "Ford Foundation," established in 1936. In addition, 162 equals twice 81 where 81 minus its reverse 18 yields 63, and 18 and 63 put side-by-side result in Ford's birth year, 1863!
10. Ford's third birthday in 1866 expressed as 7301866 is divisible by 211, the number which corresponds to the sum of the letters of "Ford Motor Company."
11. Ford's 13th birthday in 1876 can be expressed as $7301876 = 2 \times 2 \times 37 \times 103 \times 479$ where three times the sum of its four prime factors yields his birth year, 1863.
12. Lastly, Ford's 174th birthday in 2037 will be very special. Why? Its full date will be 7302037, a seven-digit palindrome day!

Happy 150th birthday, Henry Ford!

[1] Henry Ford http://en.wikipedia.org/wiki/Henry_Ford

[2] The life of Henry Ford <http://www.hfmvgv.org/exhibits/hf/>

[3] Henry Ford biography <http://www.biography.com/people/henry-ford-9298747>

[4] Ford Motor Company http://en.wikipedia.org/wiki/Ford_Motor_Company