

100th-Birthday Brainteaser Gift for David Packard

(Aziz S. Inan, Ph.D., Electrical Engineering, University of Portland, Portland, Oregon)

Friday, September 7, 2012 marks the 100th birthday of David Packard, the co-founder of Hewlett-Packard Company. David Packard was born in Pueblo, Colorado on September 7, 1912 (simply 9071912 or 971912) and died at age 83 in Stanford, California on March 26, 1996 (3261996). He earned his B.A. degree in electrical engineering from Stanford University in 1934 and his M.S. degree in electrical engineering in 1938. With his friend Bill Hewlett (1913-2001), he co-founded Hewlett-Packard (HP) Company in 1939. HP produced thousands of innovative products for millions of customers throughout the world and turned into a giant high-tech company. Around 1994, HP had close to one-hundred thousand employees and its sales reached \$25 billion [1].

As a tribute to David Packard on his 100th birthday, I looked at some of the numbers related to his life and constructed the following numerical brainteasers as a 100th-birthday gift for him that I wanted to share. I hope you will enjoy reading them.

1. David Packard's birthday equals Stanford: If one assigns numbers to the letters of the name "Stanford" (David's alma mater) using the English alphabet (letter A corresponding to 1, B being 2..., and letter Z as 26), these numbers add-up to 97, which corresponds to David's birthday, September 7th!
2. David's full name yields Stanford: The numbers assigned to the letters of David's full name "David Packard" add-up to 94 and interestingly enough, the sum of the squares of the digits of 94 yields 97, representing his birth day (September 7th) as well as "Stanford!"
3. Prime factor of David's birth year leads to his name: The highest prime factor of David's birth year 1912 is 239 (since $1912 = 2^3 \times 239$) and interestingly enough, the sum of the squares of the digits of 239 yields 94, that is "David Packard!" Also, 239 is the 52nd prime number. If one reverses 52, the 25th prime number is 97 (representing David's birth day September 7th and Stanford). Also, note that 25 equals to the reverse of 520, which represents Bill Hewlett's birth date May 20th.
4. David's full birthday also yields his name: If David's full birthday 9071912 is split as 9, 7, 19 and 12, twice the sum of these four numbers also results in 94, which represent "David Packard."
5. Leap-year: David was born in a leap year (1912) and died in a leap year (1996). In addition to being his 100th birthday, this Friday 9072012 also marks his 25th leap-year birthday.
6. Magic "110" connection between Bill's and David's full birthdays: Every year, since Bill's and David's birthdays (Bill's being May 20th and David's September 7th) are 110 days apart, Bill and David are at the same age during these 110 days. So, the number 110 is unique in this sense. However, there is more to it than that and here is how. Take number 110 and add it to Bill's birth year which results in 2023 (the year Bill will have his 110th birthday). Next, multiply 2023 with 1913 yielding 3869999. Now, you may wonder what this number stands for. Let us add this number to Bill's full birthday 5201913, that is, $3869999 + 5201913 = 9071912$ (David's full birthday)! Isn't this an amazing connection?
7. Connection between Bill's and David's birth years: The product of numbers 19 and 13 (which side-by-side make-up Bill's birth year) is 247 which equals 8 plus 239. Guess what, $8 \times 239 = 1912$, David's birth year!
8. Numbers 367, 538 and 1938: In 1938, David and Lucile Salter got married and rented the first floor of the house at 367 Addison Avenue in Palo Alto. Bill and David began to work together in the one-car garage of this apartment with a capital of \$538. These three numbers (367, 538 and 1938) are very important in HP's history. In addition, there is a numerical connection between

each of these three numbers and David. How? First, the squares of the digits of 367 add-up to 94, which equals “David Packard!” Second, the squares of the digits of 538 add-up to 98, which equals twice the reverse of 94! Third, the sum of the squares of the digits of 1938 yields 155 and amazingly, the 155th prime number is 907 (David’s birthday, September 7th)!

9. David’s birthday leads to Bill Hewlett: If David’s birthday expressed as 971912 is split as 97, 19 and 12, these three numbers add-up to 128 (which equal 2^7). Interestingly enough, the numbers assigned to the letters of “Bill Hewlett” also add-up to 128. In addition, Bill was born 255 days after David was born where 255 equals $2 \times 128 - 1$ (or $2^8 - 1$). (Also note that Bill died on January 12, 2001, 128 days before his 88th birthday.)
10. Next year (2013): Next year, David’s birthday 9072013 equals 2843 times 3191 where reverse of 3191 equals Bill’s birth year 1913. Similarly, Bill’s birthday 5202013 equals 97 times 53629 where 97 represent September 7th (David’s birth date). (In addition, reverse of 53629 is also divisible by 97.)

Thanks to you David Packard for all the high-tech innovative gadgets and instruments that your company constructed over more than half a century and have a happy 100th birthday!

[1] David Packard, “The HP Way: How Bill Hewlett and I Built our Company,” Harper Business, 1995.

Note: I started studying electrical engineering in 1973. Around that time, my older brother gave me an HP calculator as a gift (my first calculator, HP 25) that I enjoyed using for many years and I still keep it to this day.