

The Secret Behind Chocolate Math !!

Recently my daughter sent me an email that, if I followed the directions, it would magically work out my age! It does, and this how it does it. By the way, I get one or two of these each year, all slightly different, but all having the same underlying reason why they work. Here it is:

- (1) Pick the number of times a week that you would like to have chocolate. This number should be more than 1 and less than 10.
- (2) Multiply by 2
- (3) Add 5
- (4) Multiply by 50
- (5) Add 1759 if you already have had your birthday this year, otherwise add 1758.
- (6) Subtract the four digit year that you were born.

You should now have a three digit number, where the first digit is your original number (how many times a week that you would like to have chocolate), while the next two digits are your age!

It also says that this works only for the year 2009.

Here it is with my results:

- (1) Pick the number of times a week that you would like to have chocolate. This number should be more than 1 and less than 10. (I will say 4 times a week).
- (2) Multiply by 2. (answer, 8).
- (3) Add 5. (answer, 13).
- (4) Multiply by 50. (answer, 650).
- (5) Add 1759 if you already have had your birthday this year, otherwise add 1758. (answer, 2 408, since I haven't had my birthday yet this year).
- (6) Subtract the four digit year that you were born. (answer, 461. My original number was "4" and my age is currently 61. Wow, it works!).

Here is why it works:

- (1) Pick the number of times a week that you would like to have chocolate. This number should be more than 1 and less than 10. (we will call this "n").
- (2) Multiply by 2. (answer, "2n").
- (3) Add 5. (answer, "2n + 5").
- (4) Multiply by 50. (answer, "50(2n + 5)").
- (5) Add 1759 if you already have had your birthday this year, otherwise add 1758. (answer, "50(2n + 5) + 1758", since I haven't had my birthday yet this year).
- (6) Subtract the four digit year that you were born. (answer: $50(2n + 5) + 1758 - 1947$)

Let's multiply the bracket out: $100n + 250 + 1758 - 1947$.

Now let's simplify further: $100n + 2008 - 1947$.

Now $2008 - 1947$ would be how I work out my age, since I haven't had my birthday. If I had had my birthday this year, I would have added 1759, and this would leave me with $100n + 2009 - 1947$, where the $2009 - 1947$ would be how I work out my age if I had already had my birthday. So what it really says is work out your age (although it is in a convoluted way), and then add it to $100n$. Well since $n < 10$, $100n$ will be less than 1 000. It will be in the form of "n00", where $n =$ your original number. When you add your age to it, that takes the place of the two "0's" and your result is now "n61" in my case, or "n (your age)".

By the way, you could have picked "1" for the number of times a week that you would like to have chocolate, since the result would have been 161 in my case, or 1 (your age), in your case. The restriction that $n < 10$ is also not necessary, since if I picked 13 as the number of times a week that I would like to have chocolate, the result, for me, would be a four digit number: 1361, which is still "n (my age)".

By the way, for the year 2010 and beyond, just change the number 1758 (or 1759) to "year minus 250".