

Simple Math Tricks

There are many ‘math tricks’, which ask you to choose a number or two and work through several steps, often ending up with your original number(s) mixed up somehow, or with a value that’s the same every time. When they arrive by email, they will often be described as ‘amazing’, or ‘impressive’, as if they were magical.

There isn’t any magic, and you don’t have to be Harry Potter to understand how these tricks work, or to make

up tricks of your own. All you have to do is look at them the right way, and they’re easy. Two ways to get a new perspective on these puzzles are (a) use zero as your starting number, or (b) don’t pick a starting number, just call it \mathcal{N} , and write down the results from all the steps. (If you have to put in two numbers, just use two letters that make sense, such as \mathcal{M} for the month and \mathcal{D} for the day.)

Here are some examples to try these techniques on:

1 Always Get 1

1. Pick a number.
2. Add 3.
3. Multiply by 2.
4. Subtract 4.
5. Divide by 2.
6. Subtract the number you started with.

2 When Is Your Birthday?

Ask someone to follow these steps:

1. Multiply the number of the month by 5.
2. Add 7.
3. Multiply by 4.
4. Add 13.
5. Multiply by 5.
6. Add the day of the month.
7. Subtract 205.

The last two digits are the day of the month, and the first digit(s) is the month number. (To make this seem more amazing, have them tell you the result before they subtract 205, and you do that part in your head.)

3 Out For Dinner Mathematics

1. Pick the number of times a week that you’d like to eat out. (Try for more than once but less than 10)
2. Multiply this number by 2.
3. Add 5.
4. Multiply it by 50.
5. If you have already had your birthday this year add 1756. If not, add 1755.
6. Subtract the four digit year that you were born.

The first digit is your original number, and the rest is your age.

(I originally got this one by email in 2003, and it had a note which said ‘This is the only year (2003) it will ever work, so spread it around while it lasts.’ I changed it so it works for 2006. What change did I make?)

4 How Much Change?

Tell a friend you can figure how much change she has in her pocket if she will tell you the answer to these steps:

1. Multiply the amount by 2.
2. Add 3 to the product.
3. Multiply the sum by 5.
4. Subtract 6.

The last digit is 9, and the rest are her change!

5 Find Your Age and Change

Tell a friend that with this trick you can tell him his age, and how much change (less than \$1.00) he is carrying. The friend starts with his age and follows these steps:

1. Multiply his age by 4.
2. Add 10.
3. Multiply by 25.
4. Subtract the number of days in a non-leap year.
5. Add in the change.
6. Add 115.

The first two digits are the person’s age, and the second two digits are the change in his pocket. (As with the Birthday trick, you can get the number before the last stem, and do that one in your head.)

6 Where Do You Live?

Ask someone to follow these steps:

1. Double your house number.
2. Add the number of days in a week.
3. Multiply by 50.
4. Add your age.
5. Subtract the number of days in a year.
6. Add 15.

The tens and units digit of the answer are her age; the other digits are her house number. (As before, you might do the last step in your head.)