Mathmagical Cubes / Popsicle Sticks

Performance Instructions

Effect

A spectator selects four numbered sticks and places them together in any order. Once the four sticks are assembled side by side, they form four different four-digit numbers.

You ask the spectator to use their phone calculator to add the four numbers together. While they are still typing the numbers in, you instantly write down the total.

When the spectator finishes, their calculator matches your answer exactly.

Then comes the surprise ending.

Without looking at the numbers on the back of the sticks, you are also able to tell them the total of the four hidden numbers on the back.

Adding the front numbers instantly makes you look like a **Math Genius**.

Predicting the hidden back total makes you look like a **Math Psychic**.

The Secret

The trick is based on a simple number pattern built into the sticks. You do not need to add all four four-digit numbers in your head.

Instead, you only need to look at one row of numbers and apply a simple formula.

How to Find the Total of the Front Numbers

Once the four sticks are placed side by side, look at the **third row** of numbers on the front.

In the example shown, the third row is:

9 5 5 6

To find the total:

1. Place a **2** in front of the four digits.
2. Subtract **1** from the first digit.
3. Subtract **1** from the second digit.
4. Subtract **1** from the third digit.
5. Subtract **3** from the fourth digit.

Using the example:

Third row: **9 5 5 6**

Subtract: **1 1 1 3**

Result: **8 4 4 3**

Now place a **2** in front of that result: **28,443**

In the example, the four front numbers are:

4,939
5,254
9,556
8,694

Their total is: **28,443**

How to Find the Total of the Back Numbers

The back total is also hidden in the front numbers.

To find the total of the back side, look at the **second row** on the front of the sticks.

In the example, the second row is: **5 2 5 4**

Now you need to know how the sticks are turned over.

Option 1: If the Sticks Are Turned Over as a Group

If you turn the sticks around as a group, the order reverses.

That means the second row: **5 2 5 4**

is read backwards as: **4 5 2 5**

To find the hidden back total:

1. Reverse the second row.
2. Place a **2** in front of the reversed number.
3. Subtract **2** from the last digit.

Example:

Reversed second row: **4 5 2 5**
Subtract 2 from the last digit: **4 5 2 3**
Now place a **2** in front: **24,523**
So the hidden back total is: **24,523**

Option 2: If Each Stick Is Flipped Over Individually

If you simply flip each stick over without changing the order of the sticks, then do not reverse the second row.

Use the second row exactly as it appears: **5 2 5 4**

To find the hidden back total:

1. Place a **2** in front of the number.
2. Subtract **2** from the last digit.

Example:

Second row: **5 2 5 4**
Subtract 2 from the last digit: **5 2 5 2**
Now place a **2** in front: **25,252**

So if the sticks are flipped over individually without changing position, the hidden back total is: **25,252**

Quick Review

To total the **front side**, use the **third row**.

Example: **9 5 5 6**
Subtract: **1 1 1 3**
Result: **8 4 4 3**

Add a **2** to the front: **28,443**

To total the **back side**, use the **second row**.

If the sticks are turned over as a group, reverse the second row:

5 2 5 4 becomes **4 5 2 5**

Subtract 2 from the last digit: **4 5 2 3**
Add a **2** to the front: **24,523**

If the sticks are flipped over individually without changing order, keep the second row as: **5 2 5 4**

Subtract 2 from the last digit: **5 2 5 2**
Add a **2** to the front: **25,252**

Performance Tip

Do not rush the explanation during performance. Let the spectator slowly enter the numbers into their calculator. While they are doing that, casually glance at the correct row, apply the simple formula, and write down the answer before they finish.

The faster and more relaxed you appear, the stronger the effect becomes.