

|          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|
| <b>2</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>5</b> |
| <b>7</b> | <b>9</b> | <b>9</b> | <b>5</b> | <b>4</b> | <b>7</b> |
| <b>4</b> | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>9</b> |
| <b>9</b> | <b>7</b> | <b>6</b> | <b>9</b> | <b>9</b> | <b>6</b> |

|          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|
| <b>5</b> | <b>7</b> | <b>7</b> | <b>7</b> | <b>8</b> | <b>9</b> |
| <b>9</b> | <b>2</b> | <b>6</b> | <b>6</b> | <b>6</b> | <b>7</b> |
| <b>6</b> | <b>8</b> | <b>3</b> | <b>8</b> | <b>7</b> | <b>8</b> |
| <b>4</b> | <b>9</b> | <b>5</b> | <b>5</b> | <b>4</b> | <b>2</b> |

## A Simple MatheMagics Trick for G4G11

Print the previous page on cardstock and cut out the strips along the lines.

Tell someone that they can arrange as many of the strips as they want in whatever order they want (there are billions of possibilities) and you will add up the four multi-digit numbers instantly.

For example, if they pick the top six strips and place them in the order given above, then the first of the four six-digit numbers to be added up is 223,455.

The sum – and note that I am not even slightly pausing as I write this :-)  
– is 2,454,327. They can check your arithmetic with a calculator of course.

If you want to know how to perform this trick, I have put the method on page 4. That way you can choose to think about it first.

My variation of this trick uses the set of cards on the next page instead. They're purple to distinguish them. It is slightly more difficult to perform and much less likely for an audience to pick up on even if you perform the trick multiple times for them. I have not supplied the method here but you can email me if you can't figure it out.

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|          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|
| <b>1</b> | <b>2</b> | <b>4</b> | <b>4</b> | <b>5</b> | <b>6</b> |
| <b>8</b> | <b>9</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>3</b> |
| <b>2</b> | <b>5</b> | <b>3</b> | <b>8</b> | <b>9</b> | <b>4</b> |
| <b>8</b> | <b>7</b> | <b>9</b> | <b>1</b> | <b>6</b> | <b>8</b> |

|          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|
| <b>6</b> | <b>6</b> | <b>7</b> | <b>7</b> | <b>8</b> | <b>8</b> |
| <b>7</b> | <b>6</b> | <b>2</b> | <b>6</b> | <b>4</b> | <b>6</b> |
| <b>8</b> | <b>6</b> | <b>8</b> | <b>3</b> | <b>6</b> | <b>7</b> |
| <b>4</b> | <b>5</b> | <b>8</b> | <b>5</b> | <b>9</b> | <b>4</b> |

## Spoilers

The Method:

The sum is the number in the 3rd row with a **2 prepended to it** and **2 subtracted from its unit digit**. So for the example above, 454,329 gives **2,454,327**.

Why does this work?

Hint #1

It has something to do with the mathematical number of 9.

Hint #2

Examine the sum of the three numbers in the other rows on each card strip.

## Source

The original card strips, but not the explanation, are from a kit called Magic Science, which I purchased a couple of decades ago but can no longer find.