

When following the process shown in the video, if the hundreds and ones digits are different the answer is always 1089. There is a reason for this. When the digits are swapped around, the hundreds digit is bigger than the one on the bottom and the hundreds digit is ones digit on the top is smaller than the one on the bottom. The middle digit will always be the same. The when the digits are swapped

Bigger ~~8154~~ Smaller

$$\begin{array}{r}
 \text{Reversed order} \\
 \underline{159} \\
 292 \\
 + 297 \\
 \hline
 1089
 \end{array}$$

Sum = 9

For the first time and subtracted the one and hundred digits also. There are a few things that always pop up. Firstly, not the hundreds and ones digit that are added up always have a sum of 9. This is because There is a reason behind this. Here is an example. We choose two one digit numbers. For the example we use 2 and 9.

These represent the ones and hundreds digits of the original number. First, we subtract the digits from each other.

2-9 is negative, but as this is representing column subtraction, we can simply add a 10 onto the 2. The sum of the two numbers is 10. However, this will soon be 9. As the ones digit takes a carry from the tens digits that are both the same, the top one is smaller than the bottom number by 1.

$$\begin{aligned}
 9-2 &= 7-1=6 \\
 12-9 &= 3-1=2 \\
 7+2 &= 9 \\
 5-5 &\rightarrow 4-5 \rightarrow 14-5=9
 \end{aligned}$$

After a carry, it means that the answer is always 9 for the middle digit. In the process of obtaining this 9, a carry has been taken from the hundreds, meaning the total of 10 has 1 taken away from it, making it 9. When we represent this as column subtraction, it becomes clear that the final answer is 1089.

$$\begin{array}{r}
 \text{Sum}=9 \\
 \underline{259} \\
 693 \\
 + 396 \\
 \hline
 1089
 \end{array}$$

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