

Main Explanation

Due to the fact that the original's first number being larger than the second number's first digit, and vice versa for the ~~largest~~ last digit, it will force the ~~last digit~~ next numbers into having a 9 as its middle digit.

$$\begin{array}{r} 321 \\ -123 \\ \hline 198 \\ +891 \\ \hline 1089 \end{array}$$

As the middle number is nine, this means that in the final outcome has to have 8 as its 3rd digit.

In the second equation the 1st and last digit will always add up to 9 this is due to the fact that when you swap two* numbers around when subtracting and ~~swap~~ ^{change} one of them to positive. They will add up to make double the number. But if you add 10, then it will add up to 10.

$$3-7=-4$$

$$4+4=8$$

What if we use 2-digit numbers?

$$7-3=4$$

$$4 \times 2=8$$

If you use 2-digit numbers, the

$$13-7=6$$

$$6+4=10$$

final product will always be

$$7-3=4$$

ninety-nine.

As the 3rd digit is 8 it means the 2nd digit is 0 as $1+9=10$ so it carries over, meaning it is 1089.

$$\begin{array}{r} 73 \\ -37 \\ \hline 36 \\ +63 \\ \hline 99 \end{array}$$

This is due to the same reason, the middle number** when using 3 digits is always 9, which means that in 2-digit the sides (10s and 1s) will allway add up to

* single digit ** which isn't there in 2 digit

nine.