Chain Reaction



954



Think of any three-digit number, for example 187. Put the digits in descending order $_{871}$ $_{963}$ $_{954}$ Reverse the digits $_{178}$ $\frac{_{369}}{_{459}}$

Subtract

Each time you subtract you use the answer as the new starting point.

In the example above the numbers at the top of the third and fourth columns are the same.

693

By starting with other three-figure numbers you can increase the number of steps before the chain ends. What is the longest chain you can find?