

BACKADD

The following sum shows the result of adding two numbers, one being the reverse (left to right, and right to left) of the other.

$$\begin{array}{r} 832 \\ 238 \\ \hline 1070 \end{array}$$

Which is interesting, but not as much as finding two generating numbers for any such example.

So, above, two Backadd numbers add to 1070; which are they?

The point here is that, always, each generating number will be at a similar distance from half the given number, hence:

$$1070 / 2 = 535$$

The key number in Backadd is 99, which we first add to 535 (in this case) and also deduct from 535 (in this case) before continuing similarly - in adjacent columns, let's say:

Add 99 to 535:		Take 99 from 535:	
(535)	+	(535)	= 1070
634	+	436	= 1070
733	+	337	= 1070
832	+	238	= 1070
931	+	139	= 1070

Etc, etc, as they say. A string of number couples that each add to 1070 and whose digits are the reverse of each other. Things work similarly for odd starting numbers, it's just that halves arise in the working, obviously.

The following numbers may be used in further trials but no answers are given because you will easily see, from your derived number couples, that you are on the right track.

1050 766 1232 1555 969 988

END