

Digit Addition

Q 1 $5 + 9 = 14$ $144 = 5$

Q 2 I ^{same} noticed that after you do the trick, you end up with the same number you started with.

Q 3 It will because: $1 + 9 = 10$ $1 + 0 = 1$

or because: $2 + 9 = 11$ $1 + 1 = 2$

tens	ones	
	1	$3 + 9 = 12$ $1 + 2 = 3$
one move \rightarrow 1	0 \leftarrow one less one	$4 + 9 = 13$ $1 + 3 = 4$
	2	$5 + 9 = 14$ $1 + 4 = 5$
	1 1	$6 + 9 = 15$ $1 + 5 = 6$
	3	$7 + 9 = 16$ $1 + 6 = 7$
	1 2	$8 + 9 = 17$ $1 + 7 = 8$
	4	$9 + 9 = 18$ $1 + 8 = 9$
	1 3	
	5	
	1 4	

Q 4

	6
	1 5
	7
	1 6
	8
	1 7
	9
	1 8

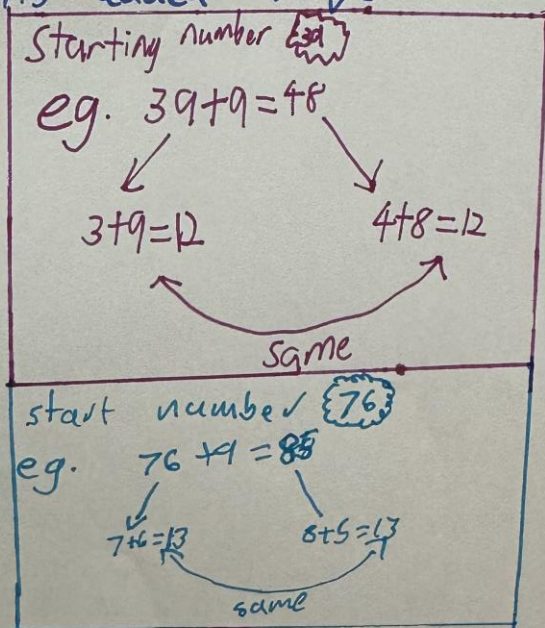
Q 4 The trick works because adding 9 adds one ten but takes one one. If you make the tens into ones and add the two numbers together the one ten acts like a the one one taken away from the base number to make it the same as the base number

E.G.

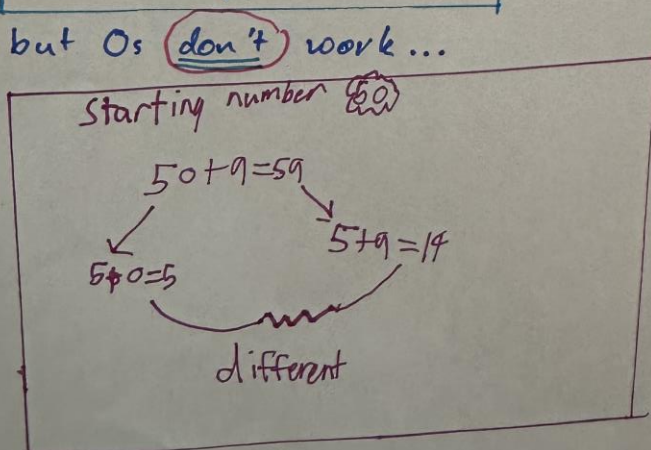
	tens	ones	
		5	← base number
adding 1 ten	1	4	taking 1 one
changing tens to ones	ones	ones	adding together
→	1	4	
adding to		5	base number

Our New Pattern

Any number from 11 to 89, that doesn't end in 0, when you add nine and then add the answer's two digits together it will equal the same number as the starting number's two digits added together.



but 0s don't work...



0 0