

ONE + TWELVE = TWO + ELEVEN

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1. **Eleven + two = twelve + one** is an amazing and rightly famous anagram. I wish to add to its mystique by revealing some more deep coincidences, based on rearranging the terms to
2. **two + eleven = one + twelve**, or, as I prefer,
3. **one + twelve = two + eleven** (a word reversal of equation #1).

These two are also anagrams *and* palindromes in numerical form (shown for #3): $1+12 = 2+11$. (The palindrome requires altered punctuation, as is conventional in verbal palindromes.) More surprisingly, they're both anagrams and palindromes in Roman numerals as well: $I+XII = II+XI$. Furthermore, both are also *rotators* (the same upside down) with a squarer font in the Arabic:

$$1 + 12 = 2 + 11.$$

Thus equations 2 and 3 are each arithmetically correct in seven different "variants" of the original.

All this was noted briefly or implied on p.23 of my book *up/dn*. I have since found a (literal) twist which arguably adds more senses of "correctness" to 2 and 3. Instead of being relocated, one of the plus signs is merely twisted by 45° after reversal or rotation to create a new anagram-palindrome-rotator equation.

Original equation #3	$1 + 12 = 2 + 11.$
Strict rotation = strict reversal =	$11 + 2 = 21 + 1.$
Now do the twist:	$11 \times 2 = 21 + 1.$

This twist doesn't work for the Roman, but a different trick--changing the plus signs to minus signs (and letting IIX be taken as an eight)--gives it too a new anagram-palindrome-rotator equation with a different but correct arithmetical sum:

Original	$I + XII = II + XI.$
Strict rotation or reversal	$IX + II = IIX + I.$
Now get negative:	$IX - II = IIX - I.$

(And pi for dessert. The ratio of the two new sums, Arabic and Roman, is 22/7!)

If you can swallow all this legerdemain, with or without dessert, that's fourteen correct "versions" of equation #3. Plus its Roman is both a vertical (columnar) and a horizontal *mirror palindrome*, for 16. All these twists also work on #2, making a whopping 32 arithmetically correct senses of the original equality #1!

I'm now losing control and hunger for more! more! more!, so I shall count #1 itself and the other five arrangements of the two pairs ($11+2=1+12$, etc) in numerical and literal forms for another 18 anagrams and 4 charades, making 54!! And let's not forget the hundreds of other arithmetically correct deployments of the four terms (like $-1 -12 + 2 = -11$, and $11^2 = 121$)! And since both X and I are symmetrical in two planes, all the Romans can be counted twice more as both horizontal slice and columnar vertical slice mirror palindromes. That adds another ... , let's see, how many Romans were there? (*"Enough to conquer the world!"*) Enough indeed!