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 down. 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

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\[ 1 + 12 = 2 + 11. \]

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

Original

\[ I + XII = II + XI. \]

Strict rotation or reversal

Strict rotation or reversal

\[ IX + II = IX + I. \]

Now get negative:

Now get negative:

\[ IX - II = IX - I. \]

(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!