Oct 2019 challenge

MIND-Xpander numeric puzzles

1. The dimensions of one box are all two-thirds of the dimensions of another. If the volume of the smaller is 64 cubic centimetres, what is the volume of the larger box?
2. Arrange the digits 1, 2, 3, 4 and 5, using only plus and minus signs (addition and subtraction), so that they total 111. Using the same instructions, arrange the digits for totals of 222, and 333. (Note There may be more than one solution)

CROSS-Numbers (mini) puzzle

Cross-numbers puzzles are like Crosswords but using numbers instead of words. Use the ACROSS and DOWN clues to determine which digits belongs in each square in the diagram. Solve the following puzzle. Note Digits may be repeated within a number.

ACROSS

1. Its last digit is the sum of its first two digits.
4. Each digit is equally divisible by the first digit, which is not 1; two digits are the same.
5. The last two digits divided by the first two digits equals the last digit.
6. Two of its digits are the same

DOWN

1. The number has different odd digits in no special 8iorder; the second digit being the largest.
2. A 2-digit square is followed by another 2-digit square; its first and last digits are the same.
3. Its first digit is the product of the last two digits.
4. Its last digit is the sum of its first two digits.

EQUATE-TakeAway puzzle

The missing numbers are between 1 and 9. The three numbers in top columns, when subtracted by the lower two numbers, equals the three totals along the bottom, and the three numbers in the left rows, when subtracted by the right two numbers, equals the three totals at the far right. The top left number, when subtracted by the lower two numbers on its diagonal, equals the total in the bottom, far right box. With one number provided, solve the puzzle by finding all missing numbers that satisfy all the results as shown.