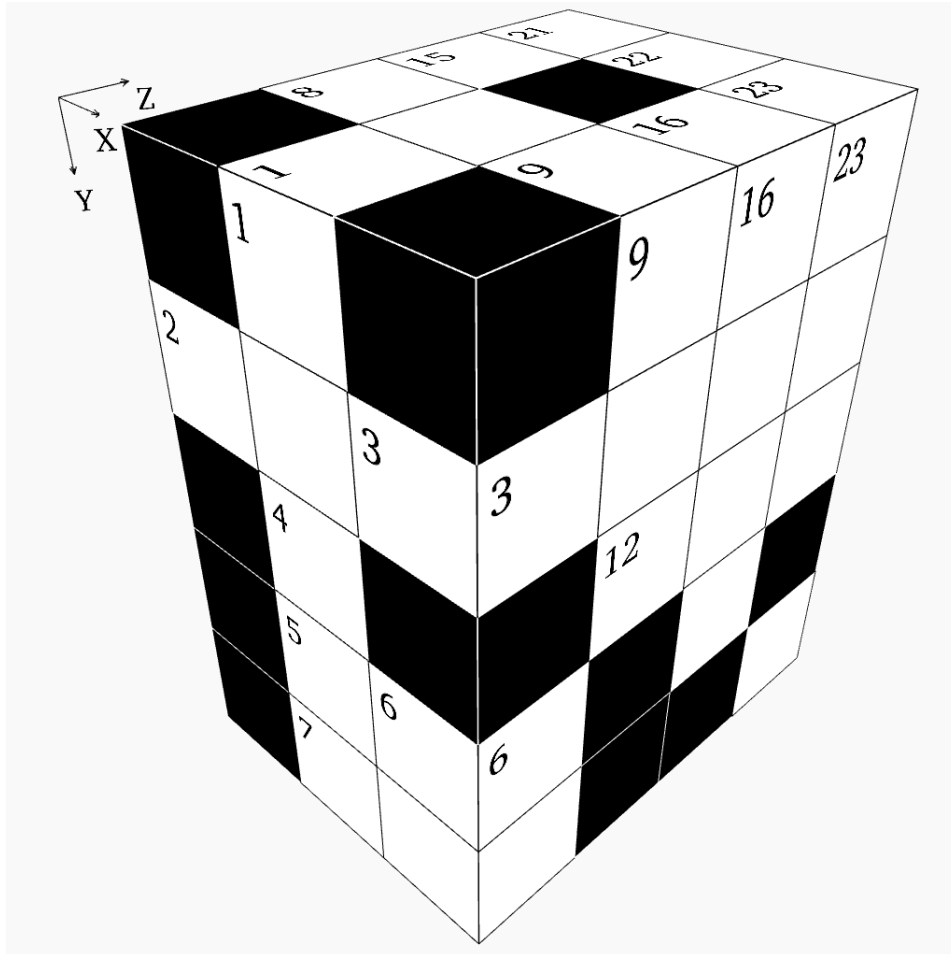


Difficulty: ★★☆☆☆

## Box - Challenging Puzzle #73



This puzzle is like a crossword, but with numbers. Each digit occupies a 3D block and can be a part of a "word" in the X,Y, and Z directions.

### Rules:

1. "Words" may not start with a zero.
2. "Words" in the X direction read from left to right.
3. "Words" in the Y direction read from top to bottom.
4. "Words" in the Z direction read from front to back.
5. There is one unique solution which satisfies all the clues given below.
6. Some "words" may not have clues. They will be determined by the "words" which intersect them.

If we take the box pictured above and divide it into individual X-Y layers, we will get these planes:

	1		8		9	15		16	21	22	23
2		3				17	18		24		
	4		10	11	12	19			25		
	5	6	13				20		26		
	7		14						27		

### X Direction

- 2 Z10 minus Z7
- 5 Z10 minus X2
- 7 Two-thirds of Z1
- 8 Z8 minus X26
- 10 X21 minus half of X7
- 13 X20 minus X26
- 14 All digits are the same
- 17 Rearranged digits of X8
- 19 X10 plus X26
- 20 X21 minus Z10
- 21 Mean of Z14 and Z7
- 24 Mean of X2 and Z7
- 25 Same as Z9
- 26 Sum of digits in Y9
- 27 A prime number

### Y Direction

- 1 A prime number
- 6 Twice a prime number
- 8 Last two digits are the same as X5
- 9 X24 plus Y23
- 11 Twenty-nine times Z1
- 15 Half of X8, then subtract Y6
- 16 Sixty-two times a prime number
- 18 Forty-two times Z1
- 21 Last two digits are the same as Z7
- 22 Its digits total Z1
- 23 Thirty-one times X7

### Z Direction

- 1 X10 minus Z10
- 2 Four times a prime number
- 3 Three times a prime number
- 4 Nineteen times a prime number
- 5 Z14 plus X14
- 7 Same as X5
- 8 Six times a prime number
- 9 Mean of Z8 and Y23
- 10 Mean of Y18 and X13
- 12 Z2 minus Y16
- 14 X27 plus X26
- 18 X20 reversed

**Solution:**

	2		8	1	6	3		3	4	7	4
4	2	7	4		5	1	8	6	2	2	3
	8		4	6	7	4	8	5	6	3	4
	1	9	1	0			2	8	1	8	
	1	4	9	9		2			9	1	1