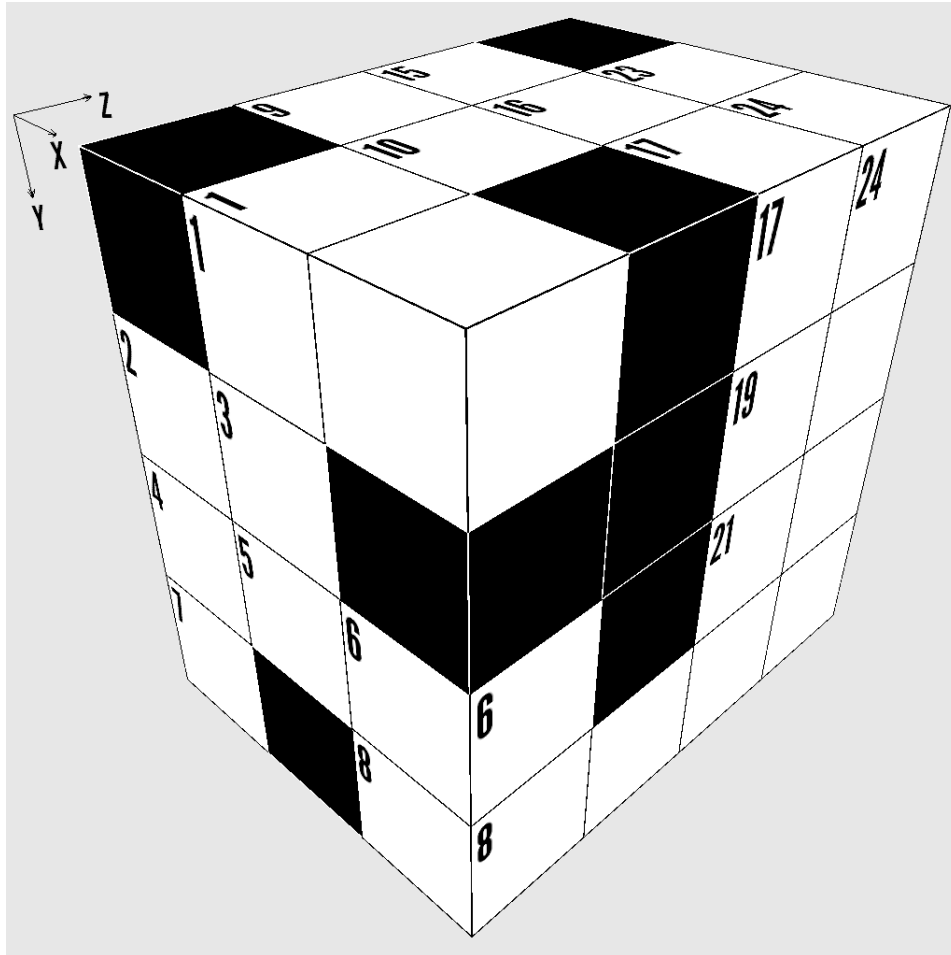


Difficulty: ★★☆☆☆

## 3D Math Puzzle - 3x4x4 Box 54



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" read from:
  - a. X Direction: Left to right
  - b. Y Direction: Top to bottom
  - c. Z Direction: Front to back
3. There is one unique solution which satisfies all the clues given below.
4. Some "words" may not have clues. They will be determined by the "words" which intersect them.

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

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

**Clues:**

**X Direction**

- 1 Digits are the same as first two digits of Z3
- 2 Average of X1 and X11
- 4 X15 plus Z19
- 9 All digits are the same
- 11 Two-thirds of X12
- 12 Z19 plus Z21
- 13 Last two digits are the same as last two digits of Z8
- 15 Last two digits are the same as Y6
- 18 First two digits are the same as first two digits of Z5
- 20 Average of X27 and Z21
- 22 Average of X25 and X27
- 23 Digits are in consecutive descending order
- 25 Last two digits are the same as last two digits of Y16
- 26 Four times a prime number
- 27 Seventy times a prime number

**Y Direction**

- 1 First two digits are the same as X2
- 2 Is a prime number
- 6 Four times X23
- 9 Eight times a prime number
- 10 First two digits are the same as first two digits of Y16
- 15 Nineteen times a prime number
- 16 Twenty-two times a prime number
- 17 Forty-four times a prime number
- 23 Is a prime number
- 24 Last two digits are the same as X11
- 25 Last two digits are the same as last two digits of Z2

**Z Direction**

- 1 Thirty-four times a prime number
- 2 Is a prime number
- 3 Three times a prime number
- 4 Twenty-seven times a prime number
- 5 Thirty-seven times a prime number
- 7 Is a prime number
- 8 Sixty-seven times X11
- 9 Is a square
- 14 Is a prime number
- 17 Is a prime number
- 19 Digits are in consecutive descending order
- 21 Is a square

**Solution is on next page**

Solution:

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