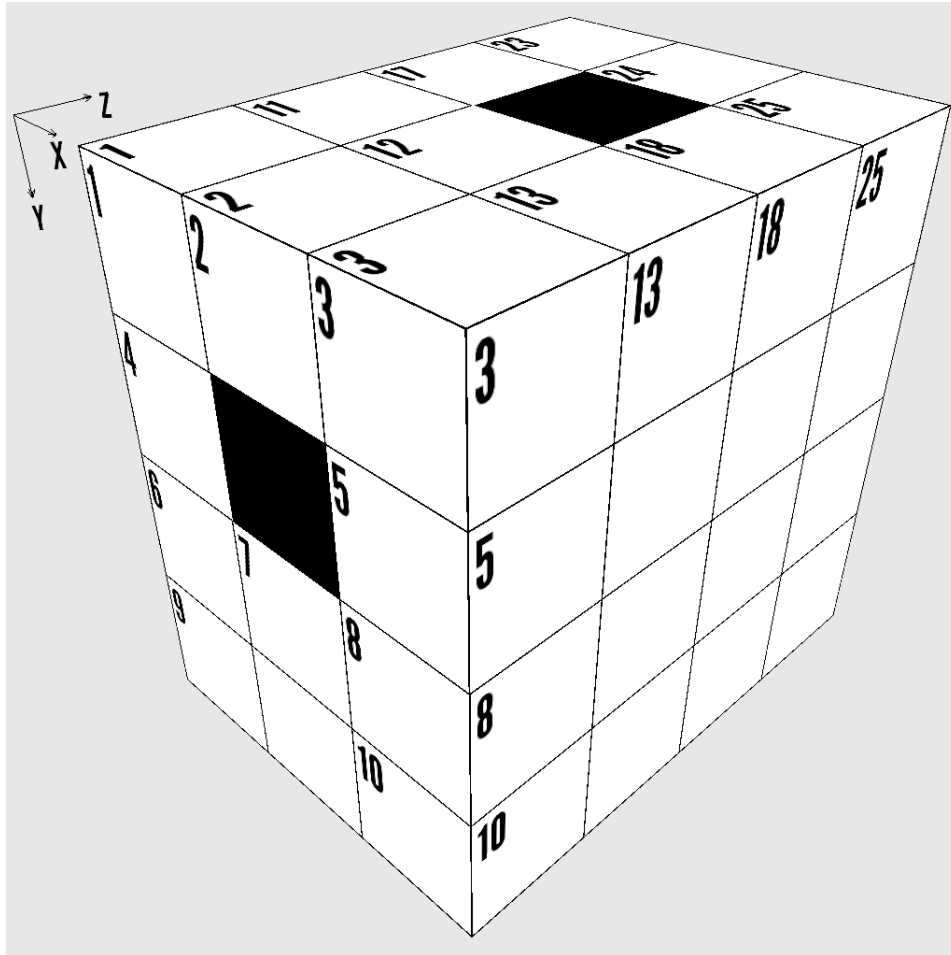


Difficulty: ★★☆☆☆

## 3D Math Puzzle - 3x4x4 Box 31



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

**Clues:**

**X Direction**

- 1 Is a prime number
- 6 Three times Z9
- 9 X14 plus Z7
- 11 Eight times a prime number
- 14 First two digits are the same as first two digits of X1
- 16 Is a square
- 19 Last two digits are the same as last two digits of X14
- 21 Four times X27
- 22 Digits are the same as last two digits of Y1
- 23 Last two digits are the same as Y11
- 26 Sixty-three times a prime number
- 27 First two digits are the same as first two digits of Z1

**Y Direction**

- 1 Forty-four times a prime number
- 3 First two digits are the same as first two digits of X1
- 7 Twelve times a prime number
- 11 Is a prime number
- 12 Rearranged digits of X21
- 13 Is a prime number
- 17 X27 plus Z9
- 18 Twenty-eight times X23
- 20 First two digits are the same as first two digits of X21
- 23 Thirteen times a prime number
- 24 Is a square
- 25 Rearranged digits of Z4

**Z Direction**

- 1 Is a prime number
- 2 Digits are the same as first two digits of X21
- 3 Thirty-one times a prime number
- 4 First and fourth digits are the same
- 5 First two digits are the same as first two digits of Z15
- 7 Last two digits are the same as last two digits of Y18
- 8 Last two digits are the same as last two digits of X27
- 9 Is a prime number
- 10 Six times a prime number
- 15 Z7 minus Z9
- 21 Twice a square
- 22 Two-fifths of Y7

**Solution is on next page**

Solution:

1	5	1
6		5
2	6	7
8	0	3

4	8	8
1	5	5
	4	9
9		7

2		9
3	5	5
5	8	4
	2	8

3	4	1
6	9	3
0		6
1	4	6