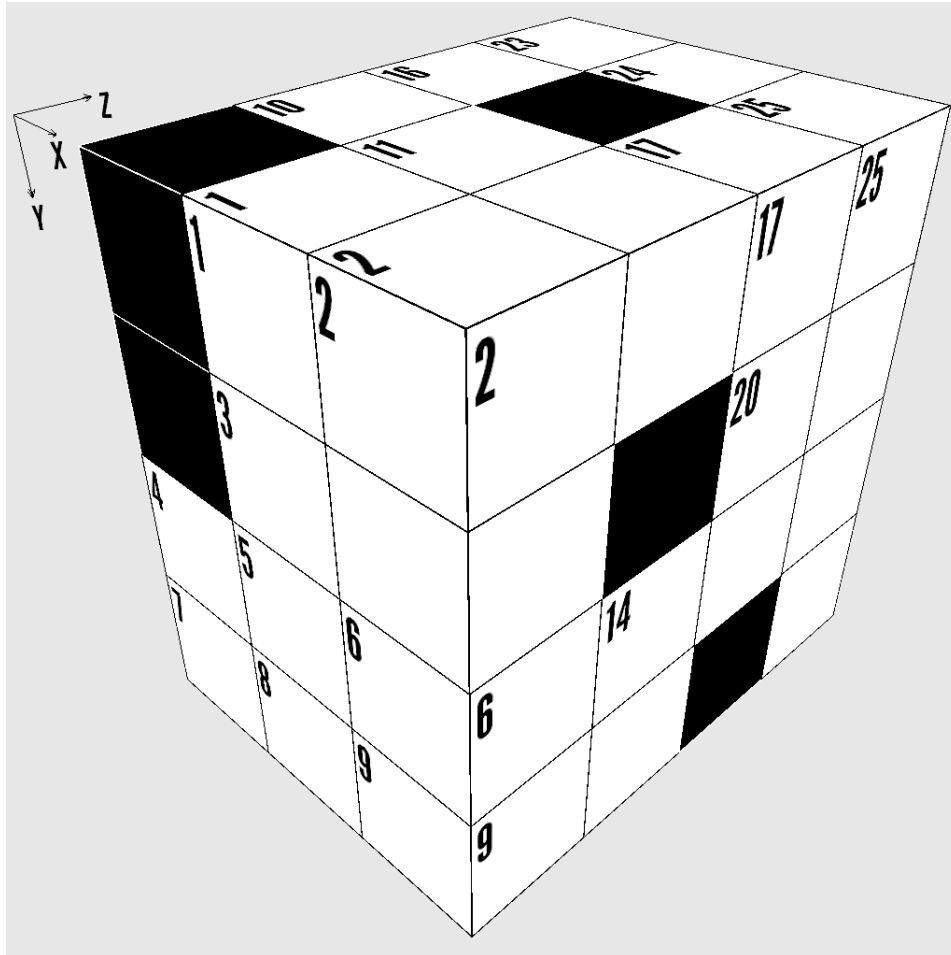


Difficulty: ★★☆☆☆

3D Math Puzzle - 3x4x4 Box 46



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	10	11		16		17	23	24	25
	3		12			18	19	20	26		
4	5	6	13		14	21			27		
7	8	9	15			22			28		

Clues:

X Direction

- 1 Digits are the same as last two digits of Z6
- 3 Average of X22 and Y14
- 4 X23 minus Z1
- 7 Digits are in consecutive descending order
- 10 Three times a prime number
- 12 Is a prime number
- 13 Is a prime number
- 15 Last two digits are the same as Y14
- 18 Thirteen times a prime number
- 21 Average of X18 and X26
- 22 One-seventh of Y19
- 23 First two digits are the same as first two digits of Y19
- 26 Is a prime number
- 27 X7 minus X1
- 28 First two digits are the same as first two digits of Y25

Y Direction

- 1 X21 plus Z5
- 2 Seventy-four times Y4
- 4 Is a square
- 10 First two digits are the same as first two digits of Y23
- 11 Last two digits are the same as last two digits of X13
- 14 Digits are in consecutive descending order
- 16 First two digits are the same as first two digits of Z3
- 17 Three times X15
- 19 Ten times Z9
- 23 Ninety-nine times X3
- 24 Last two digits are the same as Z20
- 25 Twenty-five times X13

Z Direction

- 1 X26 minus X28
- 2 Last two digits are the same as last two digits of Y2
- 3 First and third digits are the same
- 4 Twenty-five times a prime number
- 5 Seventeen times a prime number
- 6 Y1 minus Z20
- 7 First two digits are the same as X1
- 8 Is a prime number
- 9 Digits are the same as first two digits of X23
- 10 One-sixth of Y2
- 12 First two digits are the same as X12
- 20 Three times a prime number

Solution is on next page

Solution:

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