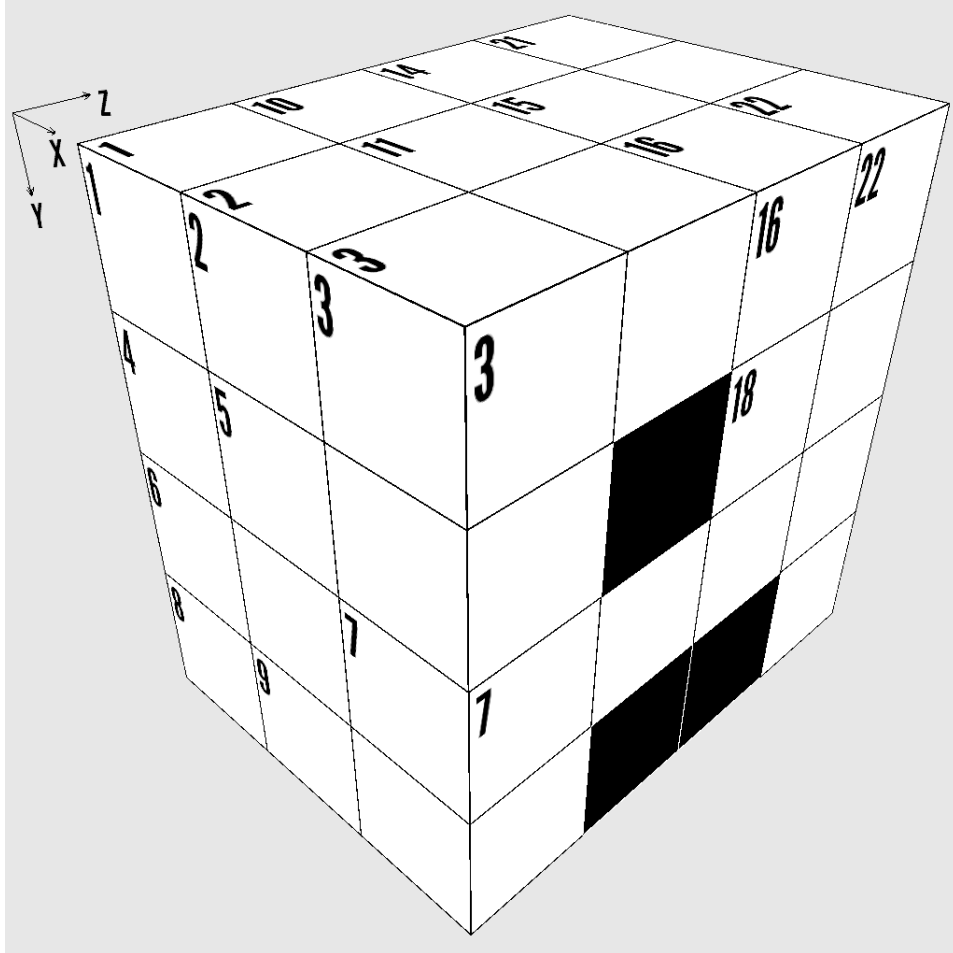


Difficulty: ★★☆☆☆

3D Math Puzzle - 3x4x4 Box 8



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	10	11		14	15	16	21		22
4	5		12			17		18			
6		7				19					
8	9		13			20				23	

Clues:

X Direction

- 1 Z9 minus X4
- 4 All digits are the same
- 6 Eighteen times a prime number
- 8 Digits are the same as last three digits of Z7
- 10 Same as X14
- 12 X13 plus X23
- 13 Is a square
- 14 Last two digits are the same as Y11
- 17 Twice a prime number
- 19 Is a prime number
- 20 Twice a prime number
- 21 First two digits are the same as first two digits of Y22
- 23 Digits are in consecutive descending order

Y Direction

- 1 Forty-three times a prime number
- 2 Is a prime number
- 3 Average of X6 and Z1
- 10 Average of X19 and Y14
- 11 Sum of the digits of X1
- 14 Is a prime number
- 15 First two digits are the same as first two digits of Y14
- 16 Is a prime number
- 21 Is a prime number
- 22 One thousand sixty-nine more than Z6

Z Direction

- 1 Rearranged digits of Z9
- 2 First three digits are the same as Y21
- 3 First two digits are the same as X13
- 4 Rearranged digits of Y14
- 5 X19 minus Y11
- 6 Z2 minus Z8
- 7 Thirty-six times a prime number
- 8 Three times a prime number
- 9 First two digits are the same as Y11
- 18 Average of X20 and X23

Solution is on next page

Solution:

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