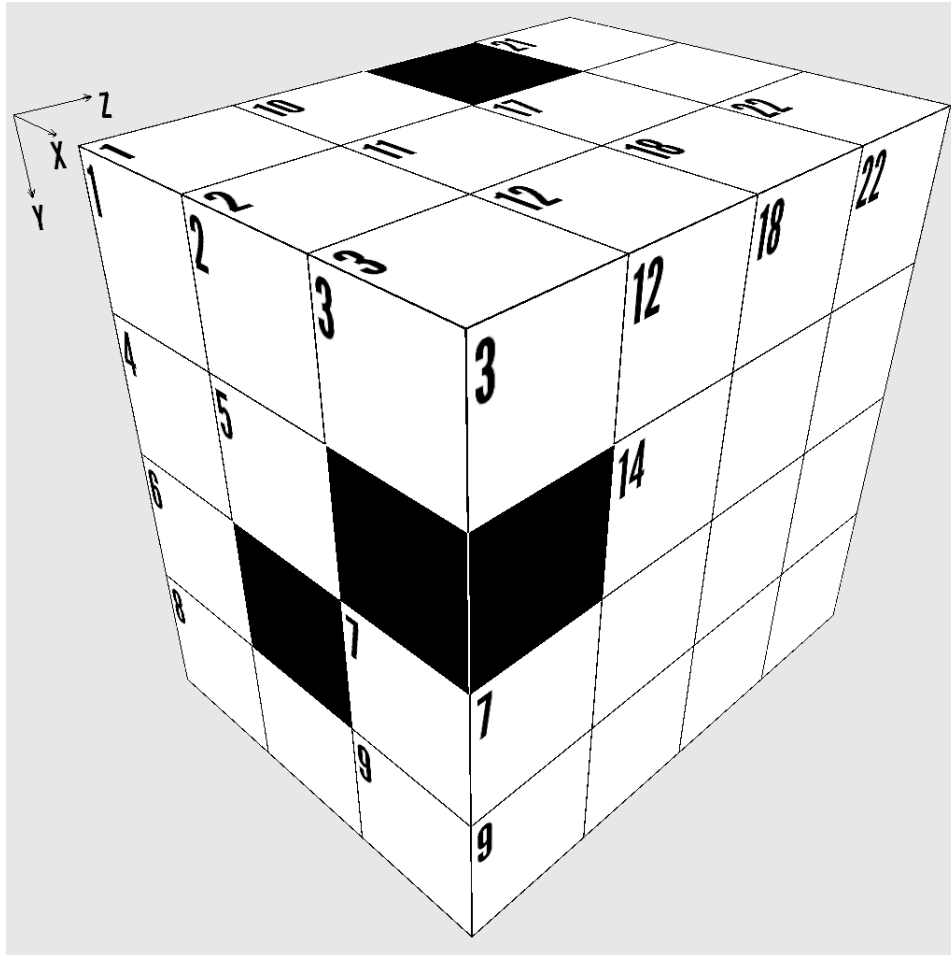


Difficulty: ★★☆☆☆

3D Math Puzzle - 3x4x4 Box 55



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	12		17	18	21		22
4	5		13		14	19					
6		7	15	16		20				23	
8		9							24		

Clues:

X Direction

- 1 Average of X8 and X17
- 4 Is a square
- 8 Is a prime number
- 10 Thirty-five times X4
- 13 Rearranged digits of Y19
- 15 Nine times X17
- 17 Y2 minus Y21
- 19 First two digits are the same as first two digits of Y17
- 20 Average of X1 and Z14
- 21 First two digits are the same as Z1
- 23 Same as Y23
- 24 Last two digits are the same as last two digits of Y22

Y Direction

- 1 Four times a prime number
- 2 Digits are in consecutive descending order
- 7 Is a prime number
- 10 First two digits are the same as first two digits of Y22
- 11 Last two digits are the same as last two digits of Y12
- 12 First three digits are the same as Y19
- 17 Thirty times Z1
- 18 Twenty-two times Y2
- 19 Is a square
- 21 Digits are the same as first two digits of Y18
- 22 Six times a prime number
- 23 All digits are the same

Z Direction

- 1 Sum of the digits of X15
- 2 Sixty-two times a prime number
- 3 Twenty-three times X23
- 4 First two digits are the same as X4
- 5 First two digits are the same as first two digits of X13
- 6 Twice X8
- 7 First two digits are the same as first two digits of Y11
- 8 Eighteen times X1
- 9 First two digits are the same as first two digits of Z3
- 14 Z6 reversed
- 16 One-third of Z3

Solution is on next page

Solution:

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