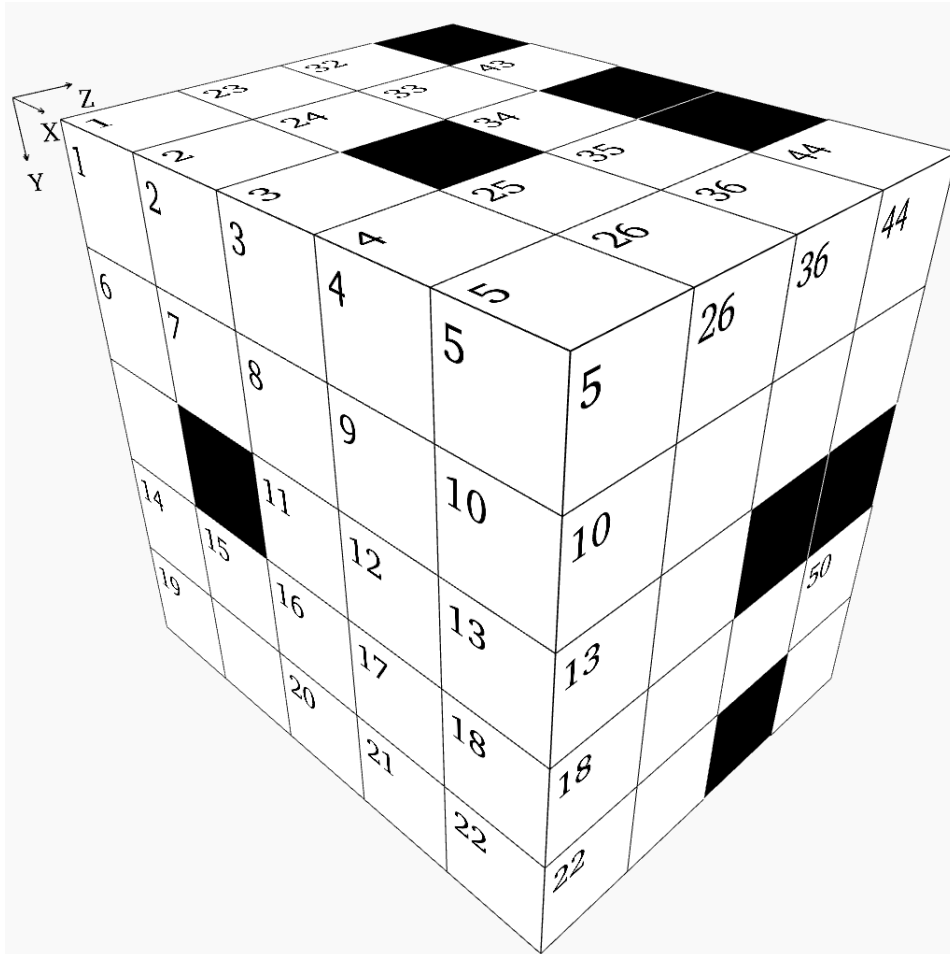


Difficulty: ★★★★★

## Box - Hard Puzzle #3



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" in the X direction read from left to right.
3. "Words" in the Y direction read from top to bottom.
4. "Words" in the Z direction read from front to back.
5. There is one unique solution which satisfies all the clues given below.
6. Some "words" may not have clues. They will be determined by the "words" which intersect them.

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

1	2	3	4	5	23	24	25	26	32	33	34	35	36	
6	7	8	9	10	27		28			37				
	11	12	13		29	30	31			38	39			40
14	15	16	17	18	30					41	42	43	44	
19		20	21	22	23	24	25							45
					46	47				48				49
										49				50
					51									

### X Direction

- 1 Thirty-six times a prime number
- 6 Four thousand six hundred twenty-nine less than X19
- 11 Consecutive digits in descending order
- 14 Ninety-nine times a prime number
- 19 Twice a prime number
- 23 Y15 minus Z13
- 25 Mean of Y2 and Z13
- 27 Nineteen times a prime number
- 29 Y28 divided by eleven
- 30 Two thousand three hundred forty-two more than Y1
- 31 Mean of X29 and Y34
- 32 Eighty-six times a prime number
- 37 Four hundred eighty-three more than Z10
- 38 Y43 minus Z2
- 40 Mean of Z22 and Z42
- 41 Four times a prime number
- 45 Fifty-five times a prime number
- 48 Nine times a prime number
- 49 Six thousand nine hundred ninety-four less than Y25
- 51 One hundred forty-five less than Y47

### Y Direction

- 1 A prime number
- 2 X23 plus Z14
- 3 Nine thousand ninety-one less than Y26
- 4 Last two digits are the same as last two digits of X31
- 5 Mean of X49 and Z5
- 15 Mean of Y36 and Y2
- 23 Mean of X23 and Z39
- 24 Mean of X40 and Z16
- 25 A square
- 26 Fourteen thousand six hundred fifty-four more than Y25
- 28 Mean of X41 and Y36
- 32 Y50 plus Y36
- 33 Z22 plus Y32
- 34 Half of Y3, then subtract X19
- 35 One thousand six hundred seventy-nine more than X30
- 36 Z1 minus Z42
- 43 A prime number
- 44 Mean of Y50 and Y32
- 45 Mean of X31 and Y44
- 46 A prime number
- 47 One thousand three hundred thirty-six less than Z11
- 50 A prime number

### Z Direction

- 1 Z38 plus Z13
- 2 A prime number
- 4 A square
- 5 A prime number
- 6 Three times a prime number
- 7 Sixty-seven times a prime number
- 8 Z7 minus X40
- 9 Mean of Z20 and Y23
- 10 Ninety-five times a prime number
- 11 Six times a prime number
- 12 Y35 minus Y1
- 13 A square
- 14 Mean of Z15 and Y36
- 15 Twice the result of Y2 minus Z14
- 16 Mean of Z14 and Y50
- 17 Y32 plus Z4
- 18 X37 minus half of Z11
- 20 Nine times a prime number
- 21 Sixty-two times Z42
- 22 Y47 minus Z12
- 38 Mean of Y32 and Y50
- 39 X31 divided by fifteen
- 42 Mean of Z38 and Y50

**Solution:**

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