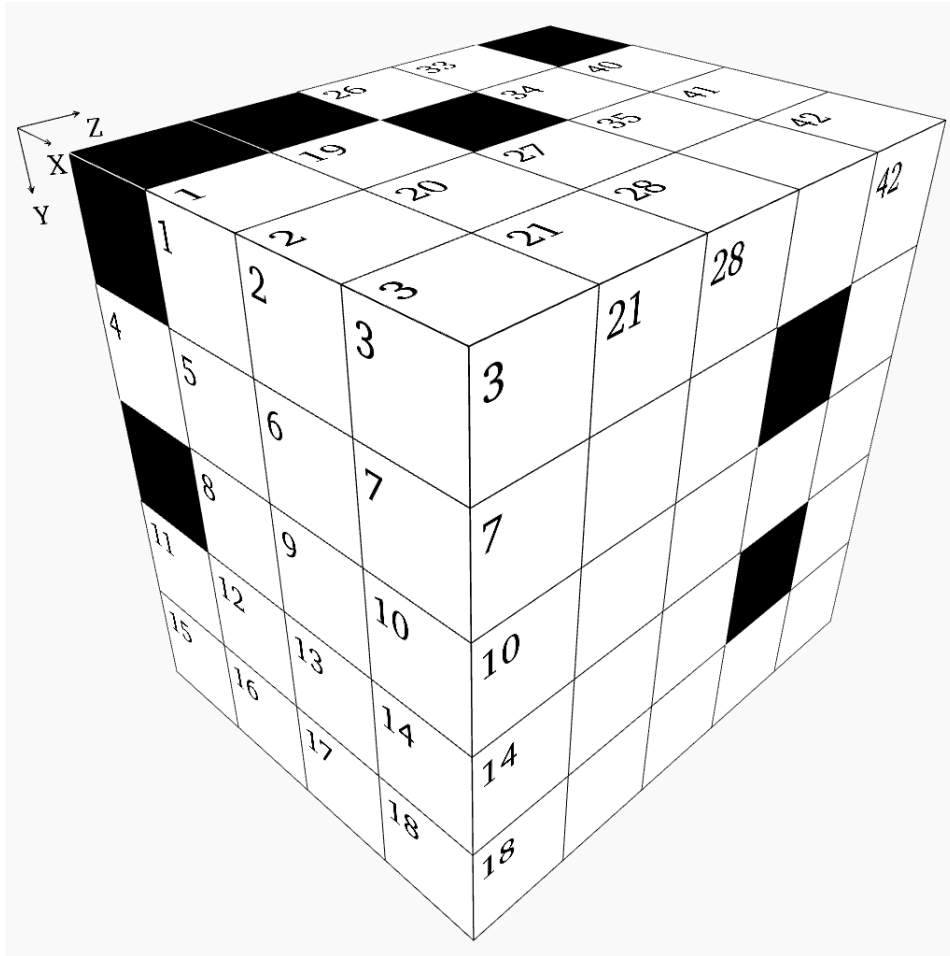


Difficulty: ★★★★★

Box - Hard Puzzle #42



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		19	20	21	26		27	28
4	5	6	7	22					29		
	8	9	10		23				30		
11	12	13	14	24				31			
15	16	17	18	25				32			

33	34	35			40	41	42
36					43		
37					44		
	38			45			
39				46			

X Direction

- 1 X30 minus Z1
- 4 Thirty-eight times a prime number
- 8 Forty-four times Y45
- 11 Twenty-six times a prime number
- 15 Five times a prime number
- 19 X22 minus X27
- 22 X46 plus Y33
- 23 Y20 minus Z6
- 24 Fifty-five times a prime number
- 25 Seven times a prime number
- 27 X30 divided by thirteen
- 29 A prime number
- 30 X1 plus Z26
- 31 Thirty-six times a prime number
- 32 A prime number
- 33 X40 times X45
- 36 Four times a prime number
- 37 Y1 minus Y2
- 38 Four times a prime number
- 39 Z17 plus X36
- 40 Mean of X22 and Y24
- 43 Seven times a prime number
- 44 Y24 plus Z7
- 45 X23 divided by thirty
- 46 Y33 minus X8

Y Direction

- 1 Twelve thousand three hundred thirty-six more than Y28
- 2 Eighteen thousand two hundred ten less than Y34
- 3 Ninety-five times Z11
- 11 Mean of Z26 and X27
- 19 Twenty-one thousand eight hundred fifteen more than Y3
- 20 Thirteen thousand nine hundred sixty-one less than Z2
- 21 Three times a prime number
- 24 Z4 minus X27
- 27 Seven thousand seven hundred twenty-eight more than Z18
- 28 Y3 minus X4
- 29 Four times a prime number
- 31 Y33 minus X44
- 33 Twice the result of Z13 minus X44
- 34 Thirty-three times a prime number
- 35 Fourteen times a prime number
- 40 Five thousand seven hundred one less than Z3
- 41 Three times a prime number
- 42 Z5 plus Z7
- 45 Same as X45

Z Direction

- 1 Z7 divided by eleven
- 2 Forty-four times a prime number
- 3 Seventeen times a prime number
- 4 Y45 reversed
- 5 Rearranged digits of Y21
- 6 Eleven times a prime number
- 7 Eleven times Z26
- 8 Y34 plus X15
- 9 Forty-seven times a prime number
- 10 Five times a prime number
- 11 Mean of Y45 and X32
- 12 Fifty-nine times a prime number
- 13 Fourteen times a prime number
- 14 Twelve times a prime number
- 15 Half of Z18, then subtract Z11
- 16 Mean of Z12 and Y31
- 17 Six times X40
- 18 Seven thousand one hundred five less than Z12
- 26 Same as Z1
- 34 X43 minus half of Z14

Solution:

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

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