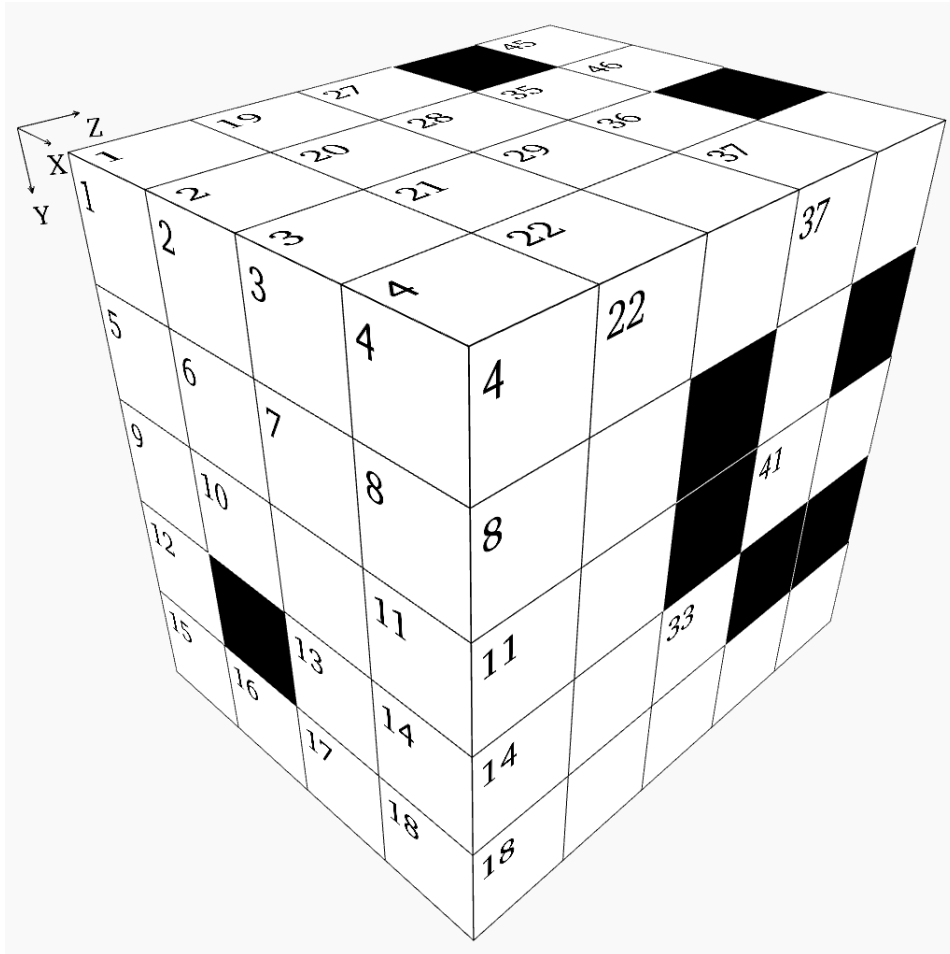


Difficulty: ★★★★★

Box - Hard Puzzle #28



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	19	20	21	22	27	28	29	
5	6	7	8	23				30			
9	10		11	24						31	
12		13	14			25					33
15	16	17	18	26				34			

	35	36	37	45	46		
38				47		48	
39		40	41	49			
42	43			50			
44				51			

X Direction

- 1 X42 times X24
- 5 Z18 divided by Z42
- 9 Y37 times Y28
- 13 X42 divided by nine
- 15 Thirteen times a prime number
- 19 X38 plus half of X49
- 23 Sixty-eight times a prime number
- 24 Y35 minus Z39
- 25 X45 plus Z42
- 26 X5 minus X44
- 27 X51 minus half of Y27
- 30 A prime number
- 32 Twice a prime number
- 34 Mean of X26 and X47
- 35 Z31 plus X45
- 38 Fifteen times a prime number
- 40 Y38 divided by sixty-two
- 42 A cube
- 44 Mean of Y35 and Z42
- 45 Y28 reversed
- 47 Four times a prime number
- 49 Forty-seven times a square
- 50 Sixteen times a prime number
- 51 One thousand seven hundred ten less than X23

Y Direction

- 1 Five thousand two hundred fifty-two less than Z16
- 2 Z32 minus X24
- 3 Nine thousand three hundred sixty-nine more than Z6
- 4 Nine times a prime number
- 19 Four times a prime number
- 20 Y36 minus X5
- 21 Six times Y28
- 22 Z3 times Y43
- 25 X44 plus Y43
- 27 Z11 plus X13
- 28 Z42 minus Y43
- 29 Consecutive digits unordered
- 32 Z9 plus Y43
- 33 Y27 minus Y32
- 35 Y33 plus Z39
- 36 Thirty-one times Y35
- 37 Mean of Y21 and X42
- 38 Y25 plus half of X23
- 43 Y32 minus X13
- 45 A prime number
- 46 X15 plus Z11
- 48 Thirteen times a prime number

Z Direction

- 1 A prime number
- 2 A prime number
- 3 Twenty-four times a prime number
- 4 Its digits total Y32
- 5 Four times a prime number
- 6 Twelve thousand six hundred seven less than Z15
- 7 Eight thousand four hundred thirty-six more than Z18
- 8 X40 minus Y32
- 9 Same as X13
- 10 Mean of Y43 and Y32
- 11 X25 minus Z10
- 12 Z13 divided by Z14
- 13 First two digits are the same as first two digits of X26
- 14 Mean of Y27 and Z31
- 15 First two digits are the same as first two digits of Z17
- 16 A prime number
- 17 First two digits are the same as first two digits of Y1
- 18 Seven thousand two hundred two less than Z6
- 31 Fifty-eight times Y28
- 32 Rearranged digits of Y37
- 39 Z41 plus Y28
- 41 Mean of Z39 and Z10
- 42 X44 minus Y32

Solution:

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