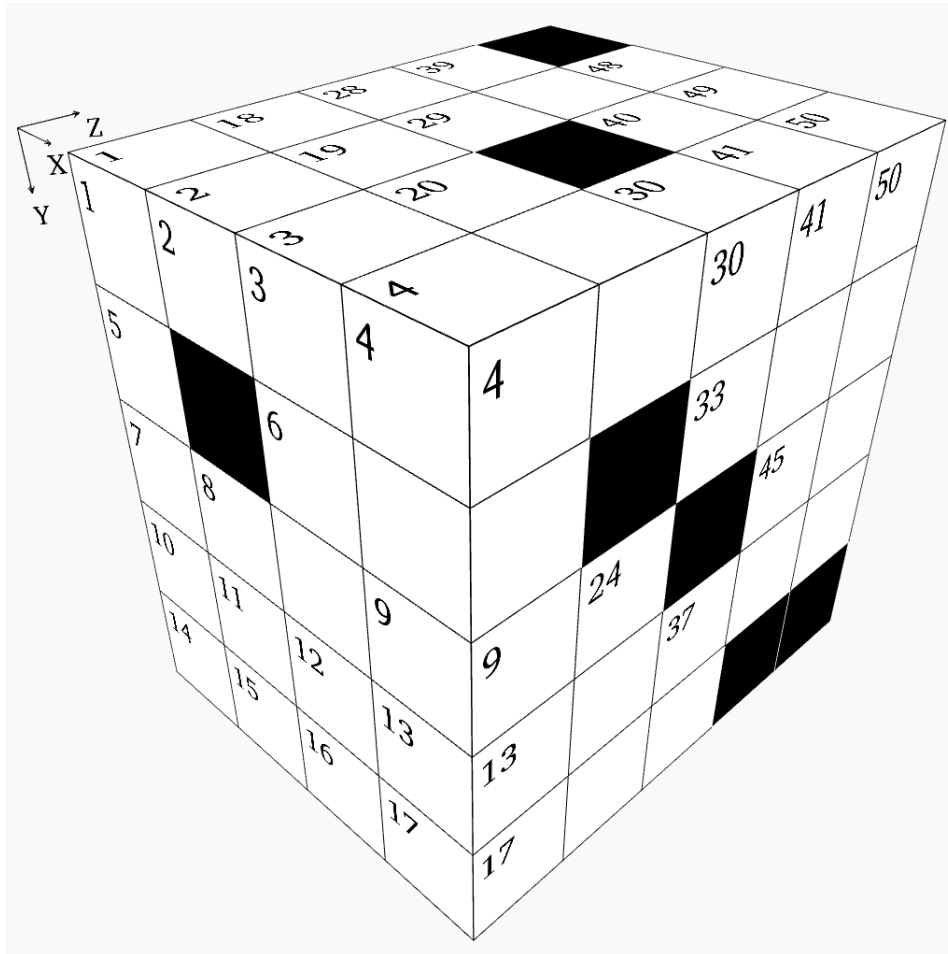


Box - Hard Puzzle #40



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	18	19	20		28	29		30
5		6		21	22			31		32	33
7	8		9	23			24	34		35	
10	11	12	13	25		26		36			37
14	15	16	17	27					38		

39		40	41		48	49	50
		42				51	
43	44		45	52	53		
	46			54			
47				55			

X Direction

- 1 Y41 plus Z17
- 6 Z9 minus X51
- 7 Its digits total X6
- 10 Seven times a prime number
- 14 Mean of Y28 and Y26
- 18 A prime number
- 21 Y24 plus X47
- 23 X28 minus Y26
- 25 Last two digits are the same as last two digits of X34
- 27 Fifty-four times a prime number
- 28 Twice X51
- 31 X43 minus Z33
- 34 Z8 minus Z16
- 36 Rearranged digits of Y50
- 38 A prime number
- 39 Mean of X18 and Y37
- 42 Z33 divided by forty-seven
- 43 Fifty-seven times a prime number
- 46 Rearranged digits of X34
- 47 Y24 minus X28
- 48 Mean of X52 and X28
- 51 Mean of Y20 and Y26
- 52 Y53 plus Y8
- 54 Two thousand twenty-six more than X1
- 55 Twice a prime number

Y Direction

- 1 Y40 plus X48
- 3 Nine times a prime number
- 4 Z22 plus Y29
- 8 A square
- 18 Four thousand eight hundred seventy-four less than Y49
- 19 Twice a prime number
- 20 Y24 minus Y39
- 24 A cube
- 26 Y39 minus X47
- 28 Four times a prime number
- 29 Z7 plus half of Y39
- 30 X38 minus half of X47
- 32 A prime number
- 37 Z10 minus Z35
- 39 A square
- 40 Nine thousand one more than Y4
- 41 Fifteen times a prime number
- 44 Z13 divided by X28
- 49 First two digits are the same as first two digits of X54
- 50 Fourteen times a prime number
- 52 Nine times X6
- 53 Thirteen times a prime number

Z Direction

- 1 Mean of X1 and Y28
- 2 Last two digits are the same as last two digits of Z15
- 3 X6 plus Z45
- 4 Forty-eight times a prime number
- 5 Twenty-six times a prime number
- 6 Six thousand four hundred two less than Z12
- 7 Thirty-one times a prime number
- 8 A prime number
- 9 Mean of X28 and Z14
- 10 Twice the result of Z35 minus Z9
- 11 Seven thousand eight hundred sixty-six more than Z4
- 12 Mean of Z11 and Y52
- 13 One thousand eight hundred ninety more than X54
- 14 Y44 divided by three
- 15 Mean of Z6 and Z14
- 16 Fifty-six times a prime number
- 17 Rearranged digits of Y24
- 22 Sum of digits in Y18
- 33 X36 minus X52
- 35 Y24 minus X34
- 40 Y30 minus X42
- 45 X43 minus half of Y50
- 47 Z40 minus Y37

Solution:

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

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