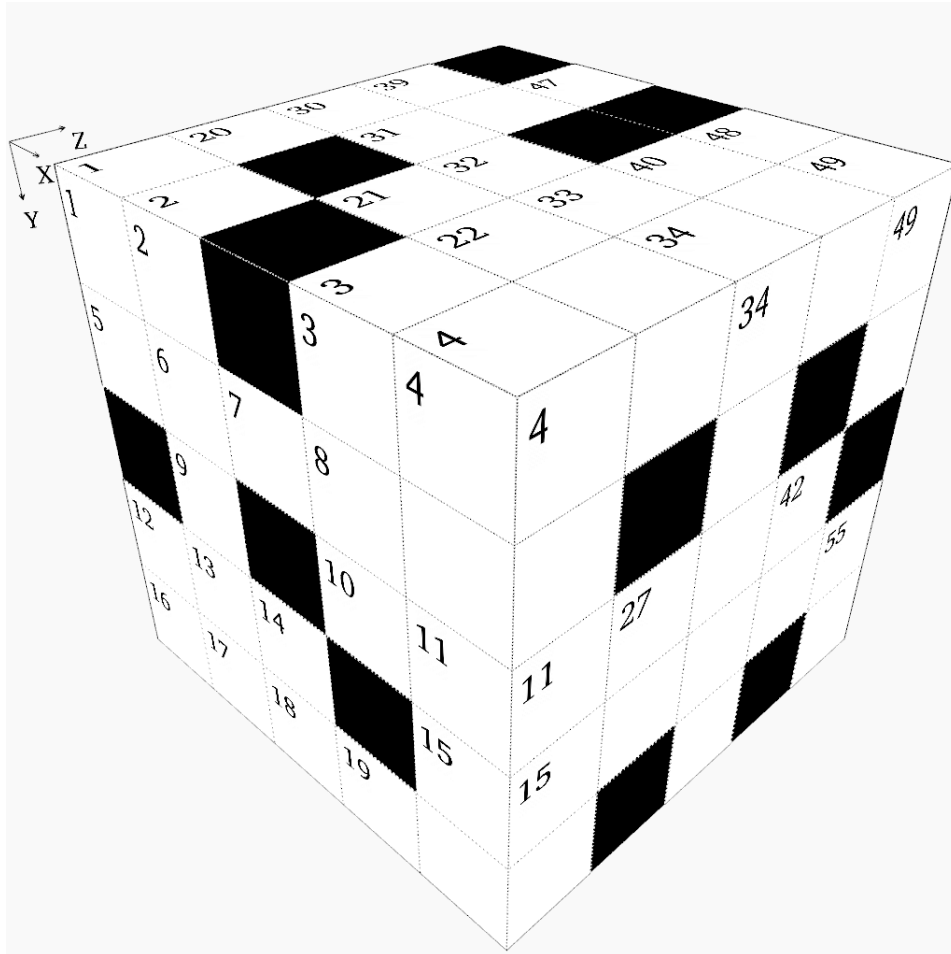


Difficulty: ★★★★★

Cube - Hard Puzzle #24



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 cube pictured above and divide it into individual X-Y layers, we will get these planes:

1	2		3	4	20		21	22		30	31	32	33	34
5	6	7	8		23	24				35				
	9		10	11	25		26		27	36				
12	13	14		15		28				37				
16	17	18	19		29									

39			40			47		48	49
						50		51	
			41		42	52			
43	44							53	54
45		46				56			

X Direction

- 1 Z8 divided by Z31
- 3 Z46 minus Y27
- 5 Half of Y22, then subtract X48
- 10 Y54 reversed
- 12 X3 plus Y33
- 16 Three times a prime number
- 21 X37 minus Z18
- 23 Mean of X53 and X29
- 25 Seventy-five times a prime number
- 28 A square
- 29 Eighteen times a prime number
- 30 Seventeen times a prime number
- 35 Eight times a prime number
- 36 Eleven thousand seven hundred sixty-seven more than Y2
- 37 Twice the result of Z37 minus Y42
- 38 Y42 minus X40
- 39 Y54 minus Y44
- 40 Y49 plus X1
- 41 Y41 minus Y49
- 43 Z9 minus X21
- 45 A prime number
- 48 Mean of Y44 and X3
- 50 Twenty times a prime number
- 52 Mean of Z21 and Y47
- 53 Z3 divided by X52
- 56 Twice the result of X30 plus Z11

Y Direction

- 1 Mean of Y44 and Z21
- 2 Thirty-seven times a prime number
- 3 A cube
- 4 Last two digits are the same as last two digits of Z25
- 12 X40 minus X38
- 14 Y4 divided by Z13
- 20 Z9 minus X3
- 21 Mean of Z4 and Z16
- 22 Twelve thousand eight hundred twenty-seven more than Y31
- 24 Nine hundred thirty-four less than Y50
- 27 Y44 plus Y48
- 30 One hundred ninety less than X29
- 31 Five thousand four hundred forty-six less than Y2
- 32 Six times a prime number
- 33 Eleven times X1
- 34 A prime number
- 39 A prime number
- 40 Seven times a prime number
- 41 Y31 divided by Y3
- 42 X10 plus X48
- 44 X10 minus X48
- 47 Y14 times X3
- 48 X10 minus Y49
- 49 Mean of X1 and X39
- 50 Last two digits are the same as Y27
- 51 Four times a prime number
- 54 X1 plus Y12
- 55 Twice the result of Y32 minus Z10

Z Direction

- 1 Y2 divided by Y12
- 3 Y27 times Z9
- 4 Twenty-three times a square
- 5 Thirty-seven times a prime number
- 6 Y41 plus Y44
- 7 X10 plus Z31
- 8 Five thousand four hundred eighty-eight more than Y21
- 9 X37 plus X10
- 10 Y32 minus X38
- 11 Consecutive digits unordered
- 13 A prime number
- 14 A prime number
- 15 A palindrome
- 16 Y40 divided by seven
- 17 Twice the result of Z15 minus Z5
- 18 X43 minus X10
- 19 X25 minus half of Z6
- 21 Mean of Y14 and X3
- 25 Y34 minus X50
- 26 Twenty-eight times a prime number
- 31 Six times a prime number
- 37 X21 plus X38
- 45 Y1 plus Z21
- 46 Z45 plus Y44

Solution:

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

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