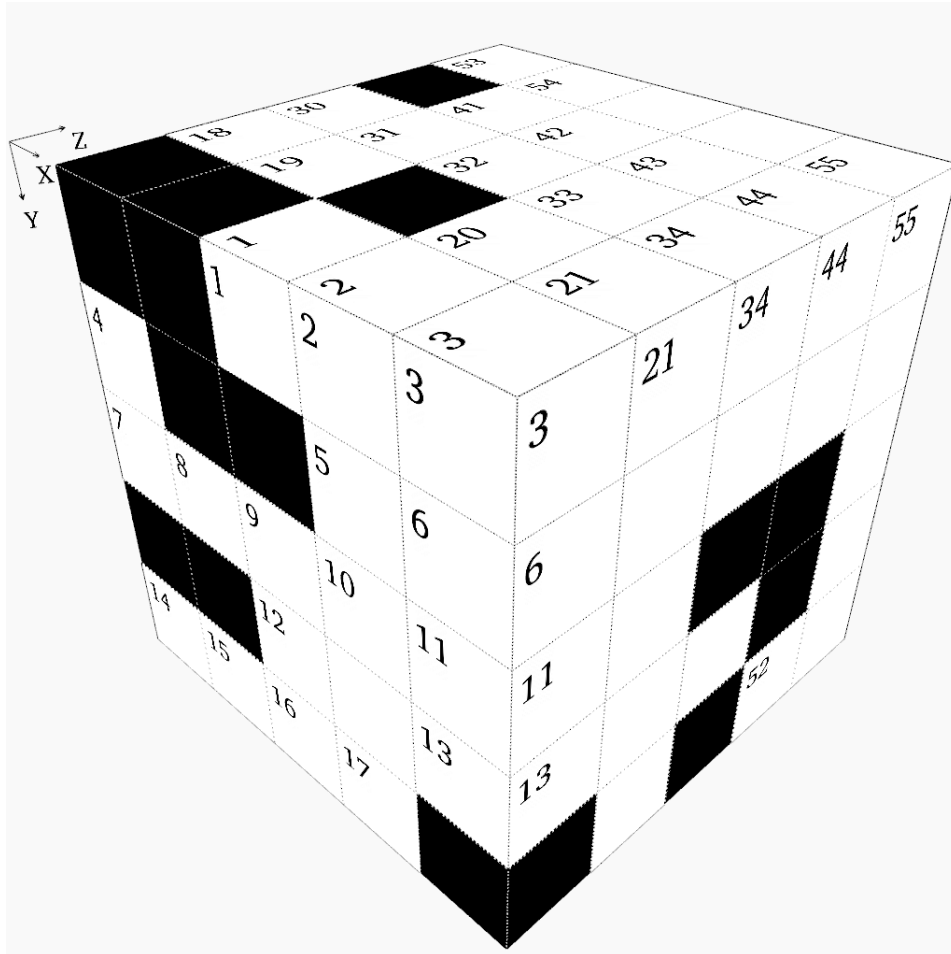


Difficulty: ★★★★★

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

		1	2	3	18	19		20	21	30	31	32	33	34
4				5	6	22	23	24				35		
7	8	9	10	11	25			26		36		37		
		12		13	27		28			38	39			
14	15	16	17		29					40				

	41	42	43	44	53	54			55
45					56				
	46		47		57		58	59	
48		49			60				
50			51	52	61				

X Direction

- 1 Half of Z5, then subtract Z23
- 5 Mean of Z49 and Z16
- 7 Z6 minus Y58
- 12 Y34 plus Z32
- 14 Twenty-seven times a prime number
- 18 Z45 plus Y44
- 20 X26 minus Z4
- 22 Forty-two times a square
- 25 Mean of Y4 and X20
- 26 Twice the result of Z14 minus Y2
- 29 Seventeen times a prime number
- 30 Z19 times Y44
- 35 Three times a prime number
- 36 X26 plus Y9
- 38 X40 divided by Y32
- 40 One thousand fifty-six more than X35
- 41 A prime number
- 45 Mean of X60 and Z13
- 46 Y36 minus Y4
- 48 Y9 minus X25
- 50 Mean of Z45 and Y44
- 51 Six times Y4
- 53 Sixty-one times a prime number
- 56 Y28 minus Y4
- 57 Six thousand one hundred ninety-nine less than X53
- 60 Twice a prime number
- 61 Twenty-one times a prime number

Y Direction

- 2 Z14 minus X25
- 3 Eleven times a square
- 4 Y33 minus X50
- 9 A square
- 18 Twenty-one times a prime number
- 19 Fourteen times a prime number
- 20 Eight times Z18
- 21 A prime number
- 28 Mean of Z39 and Z12
- 31 Nine thousand five hundred ninety-six more than Y54
- 32 Y58 minus X20
- 33 Mean of Z18 and Y44
- 34 Mean of Z52 and X50
- 36 Mean of Y9 and X48
- 41 Seven times a prime number
- 42 Thirty-three times a prime number
- 43 Twice the result of Y59 plus Y48
- 44 X51 minus Z12
- 48 A square
- 53 Thirteen times a prime number
- 54 Sixty times a prime number
- 55 A prime number
- 58 Mean of Z16 and X36
- 59 Z47 plus Z39

Z Direction

- 2 Mean of Y53 and Z49
- 3 Half of Z8, then subtract X25
- 4 Y28 minus X56
- 5 Twelve times a prime number
- 6 Thirty-one times a prime number
- 7 Twice the result of Z39 minus Z12
- 8 Twice a prime number
- 10 Z39 minus Y33
- 11 Mean of Z7 and Y33
- 12 Twice X25
- 13 X46 plus Z10
- 14 Seven thousand five hundred four less than Z3
- 15 Twice the result of Y18 plus X51
- 16 X20 plus X51
- 17 A prime number
- 18 Y48 minus Y34
- 19 Seventy-two times X56
- 23 Fifty-seven times a prime number
- 24 A prime number
- 27 Eighteen times a prime number
- 32 X20 plus half of X46
- 37 Ninety-seven more than X48
- 39 Y59 minus Y48
- 45 A square
- 47 A square
- 49 Z16 minus X25
- 52 Y28 minus Y4

Solution:

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

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